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Oak Ridge National Lab., TN

Prepared for

Environmental Protection Agency
Washington, DC

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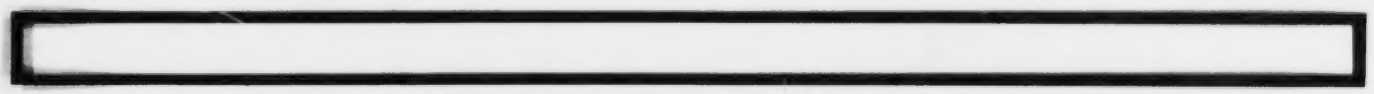

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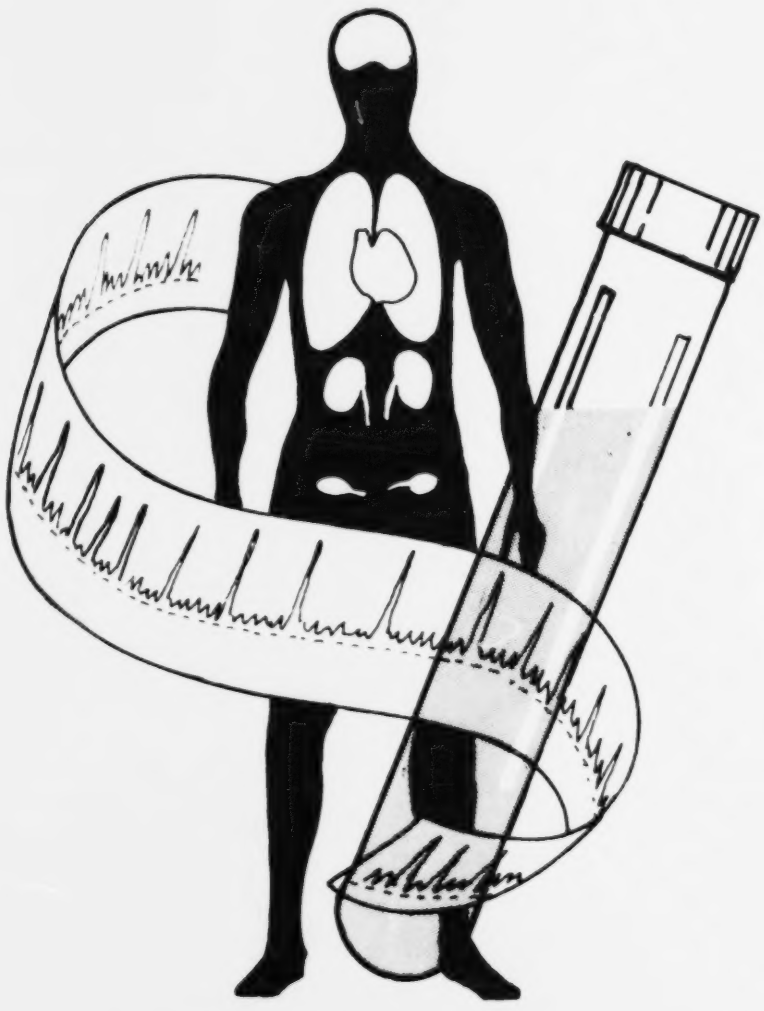
Chemicals Identified In Human Biological Media, A Data Base

First Annual Report
October 1979



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16. ABSTRACT

A comprehensive data base of chemicals identified in human biological media (tissues and body fluids) has been established under the direction of the Environmental Protection Agency's Office of Toxic Substances Survey and Analysis Division. This centralized resource of body-burden information was inspired by the concern of government scientists over continuing reports of toxic chemicals in human tissues and body fluids.

Body burden is a reflection of exposures to food, air, and water contaminants, as well as pharmaceuticals. The systematic acquisition of body-burden data will facilitate a more relevant assessment of human exposure to toxic chemicals and xenobiotics than previously possible using environmental contamination levels.

Data were obtained primarily from the open literature through manual searches of selected journals. Retrospective searching to 1974 is complete and has yielded over 2000 pertinent documents of which approximately 400 have been entered into the data base as of this report. These sources identify over 200 chemicals which have been found in human biological media.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Body-burden Human tissues/body fluids Residues		

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Volume I, Part 2
Records 1-1580

Compiled by

M. Virginia Cone, Margaret F. Baldauf,
Fay M. Martin, and John T. Ensminger

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Chairperson, Dr. Herman F. Kraybill.

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and Information
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Washington, D.C. 20460

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Part 2

Data Base 1

Acetanilide, 4'-(2-hydroxy-3-(isopropylamino)propoxy)- (8 CI)
Acetanilide, N-(4-(2-hydroxy-3-((1-methylethyl)amino)propoxy)phenyl)- (9 CI)
6673-35-4
C14-H22-N2-O3
MW 266.32, MP 134-136 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1 Blood	Ingestion	Radiometry	a) 6 b) 6	a) 0.99-1.54 ug/ml b) 0.90-1.63 ug/ml	a) Not given b) Not given	a) Whole blood b) Plasma Peaks 1-3 hr after single 100 mg dose, based on measurement of radioactive label. 6 patients and 1 healthy volunteer, 35-67 yr. All patients had previous Practolol therapy, 6 had suffered adverse reactions. 12-16 hr DRUGS; URINE; BLOOD; BLOOD PLASMA; SALIVA; METABOLITES	Reeves, P.R. Case, D.E. Jepson, N.T. McCormick, D.J. Nicholls, J.T. Felix, R.H. Holt, P.J.L. Zacharias, P.J. Fluke, R.W. 1978
2 Saliva	Ingestion	Radiometry	7	0.45-2.04 ug/ml	Not given	Peaks at 2-11 hr after 100 mg dose, based on measurement of radioactive label. 6 patients and 1 healthy volunteer, 35-67 yr. All patients had previous Practolol therapy, 6 had suffered adverse reactions. DRUGS; URINE; BLOOD; BLOOD PLASMA; SALIVA; METABOLITES	Reeves, P.R. Case, D.E. Jepson, N.T. McCormick, D.J. Nicholls, J.T. Felix, R.H. Holt, P.J.L. Zacharias, P.J. Fluke, R.W. 1978

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Acetanilide, 4'-(2-hydroxy-3-(isopropylamino)propoxy)- (8 CI)
Acetamide, N-(4-(2-hydroxy-3-((1-methylethyl)amino)propoxy)phenyl)- (9 CI)
6673-35-4
C14-H22-N2-O3
MW 264.32, MP 134-136 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
3 Urine	Ingestion	Radiometry	7	a) 48-77% b) 63-87% c) 76-90%	a) Not given b) Not given c) Not given	a) 0-24 hr b) 0-48 hr c) 0-72 hr % of 100 mg dose excreted, based on measurement of radioactive label. Excluded is an anomalous case (only 48% excreted after 6 days). 8 patients and 1 healthy volunteer, 35-67 yr. All patients had previous Practolol therapy, 6 had suffered adverse reactions. DRUGS; URINE; BLOOD; BLOOD PLASMA; SALIVA; METABOLITES	Reeves, P.R. Cane, D.E. Jepson, M.T. McCormick, D.J. Nicholls, J.T. Felix, R.M. Holt, P.J.L. Zacharias, P.J. Flake, R.W. 1978

Acetic acid, (2-hydroxyethoxy)-
13382-47-3
C4-H8-O4
MW 120

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
U Urine		GC/MS	5	60-622 umol/l	414 umol/l	Range of means Employees at dioxane plant of Dow Chemical Company, Freeport, Texas. Vapors in work environment. URINE; DIOXANES; ACETIC ACID; OCCUPATIONAL HAZARDS; METABOLISM; METABOLITES; INDUSTRIAL PLANTS; TEXAS	Young, J.T. Braun, W.H. Gehring, P.J. Horvath, B.S. Daniel, R.L. 1976

Acetic acid, (2,4-dichlorophenoxy)-
94-75-7
C8-H6-C12-03
MW 221.04, MP 138 C, BP 160 C at 0.4 mm Hg

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
5 Blood, plasma	Ingestion	GC	6	a) Not applicable b) Not applicable c) Not applicable	a) 25 ug/ml b) 28 ug/ml c) 6 ug/ml	a) 2 hr b) 24 hr (peak) c) 96 hr Single dose of 5 mg/kg Levels estimated from graph. Healthy male volunteers, 22-30 yrs. Quickly absorbed and excreted as 2,4-D. BLOOD; URINE; METABOLISM	Kohli, J.D. Khanna, R.N. Gupta, R.N. Dhar, M.M. Tandon, J.S. Sircar, K.P. 1974
6 Urine	Ingestion	GC	6	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) 26.9 + or - 7.2% b) 56.6 + or - 6.4% c) 70.6 + or - 8.1% d) 76.5 + or - 8.4%	a) 24 hr b) 48 hr c) 72 hr d) 96 hr Cumulative excretion at times after single 5 mg/kg dose. Healthy male volunteers, 22-30 yrs. Quickly absorbed and excreted as 2,4-D. BLOOD; URINE; METABOLISM	Kohli, J.D. Khanna, R.N. Gupta, R.N. Dhar, M.M. Tandon, J.S. Sircar, K.P. 1974

Adenosine, cyclic 3',5'-(hydrogen phosphate)
60-92-4
C10-H12-N5-O6-P
MW 329.22, MP 219-220 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
7 Urine		PIA	8	a) 2.02-4.22 nmol/mg creatinine b) 1.32-6.75 nmol/mg creatinine	a) 2.81 nmol/mg creatinine b) 3.84 nmol/mg creatinine	a) Control diet b) High-phosphorus diet Samples from graduate students 24-36 years old. Introduction of foods containing phosphate additives associated with intestinal distress, mild diarrhea. Enhanced parathyroid activity PHOSPHORUS; CALCIUM; MINERALS; DIETS; FOODS; FOOD ADDITIVES; BLOOD SERUM; URINE; NUTRITIONAL DISORDERS; PARATHYROID DYSFUNCTION; ADENOSINE MONOPHOSPHATE; ILLINOIS	Bell, R.R. Draper, H.H. Tzeng, D.Y.M. Shin, H.K. Schmidt, G.R. 1977

Alanine, 3-[(carboxymethyl)thio]-, L- (8 CI)
L-Cysteine, S-(carboxymethyl)- (9 CI)
638-23-3
C5-H9-N-O4-S
MW 179.21, MP 204-207 C (L-form)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
8 Urine	Ingestion	TLC	4	Not given	42.3%	Percent of 400 mg oral dose excreted in 24 hr. The major excretory products were: S-carboxymethylcysteine, and S-carboxymethylcysteine-sulphoxide. Also found were the metabolites N-acetyl-S-carboxymethylcysteine and methylmercapturic acid and trace amounts of methylcysteine and methyloysteine sulphoxide. DRUGS; METABOLISM; METABOLITES; URINE; AMINO ACIDS	Waring, R.H. 1978

Aluminum
7429-90-5
Al
AtW 26.98154, MP 660 C, BP 2327 C, VP 1 mm Hg at 1540 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
9 Heart		AAS	a) 6 b) 6	a) 1.9-18.0 ug/g dry wt b) 1.9-19.1 ug/g dry wt	a) 7.4 ug/g dry wt b) 6.2 ug/g dry wt	a) Deaths from ischemic heart disease b) Controls Values are for heart muscle. Samples from 6 people who died of heart disease, aged 64-80 yr, and 6 controls, aged 24-82 yr. ALUMINUM; SILICON; METALS; TRACE ELEMENTS; HEART; HEART DISEASES	Chipperfield, B. Chipperfield, J.R. Bower, N.R. 1977
10 Liver		ES	10	Not given	80.0 ug/g	Arithmetric mean Geometric mean=59.1 ug/g Concentrations based on ash weight Samples from ten healthy adult males who were accident victims. METALS; SILVER; ALUMINUM; BARIUM; CADMIUM; COBALT; CHROMIUM; COPPER; IRON; MANGANESE; MOLYBDENUM; NICKEL; LEAD; TIN; STRONTIUM; TITANIUM; ZINC; LIVER	Perry, H.M., Jr. Perry, E.F. Hixon, B.B. 1977
11 Lung		MS	100	0.059-410 ug/g dry wt	26.5 ug/g dry wt	Means are geometric. Samples from deceased Cincinnati, OH residents, age range 23-96 years with a median of 66 years, evenly divided between men and women, blacks and whites. Occupations included foundry workers, machinists, farmers, domestics, homemakers, clerical workers. Deaths were from normal causes. METALS; TRACE ELEMENTS; ALUMINUM; CADMIUM; CHROMIUM; COBALT; COPPER; GERMANIUM; IODINE; LEAD; MAGNESIUM; MANGANESE; MOLYBDENUM; SELENIUM; TITANIUM; VANADIUM; ZINC; AUTOPSIES; LUNGS; LYMPH NODES; URBAN AREAS; OHIO	Sweet, D.V. Crouse, W.E. Crable, J.V. 1978

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Aluminum
7429-90-5
Al
AtW 26.98154, MP 660 C, BP 2327 C, VP 1 mm Hg at 1540 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
12 Lymph node		MS	100	0.32-1.7 x 10(E+4) ug/g dry wt	340 ug/g dry wt	Means are geometric. Samples from deceased Cincinnati, OH residents, age range 23-96 years with a median of 66 years, evenly divided between men and women, blacks and whites. Occupations included foundry workers, machinists, farmers, domestics, homemakers, clerical workers. Deaths were from normal causes. METALS; TRACE ELEMENTS; ALUMINUM; CADMIUM; CHROMIUM; COBALT; COPPER; GERMANIUM; IODINE; LEAD; MAGNESIUM; MANGANESE; MOLYBDENUM; SELENIUM; TITANIUM; VANADIUM; ZINC; AUTOPSIES; LUNGS; LYMPH NODES; URBAN AREAS; OHIO	Sweet, D.V. Crouse, W.E. Crable, J.V. 1978

Amphiboles
1318-09-8
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
13 Urine	Ingestion	EM	a) 1 b) 1 c) 1 d) 1 e) 1 f) 1	a) 194-469 fibers/ml b) 0.3-72 fibers/ml c) 370-893 fibers/ml d) 13-93 fibers/ml e) 0-74 fibers/ml f) 0-111 fibers/ml	a) 310 fibers/ml b) 13 fibers/ml c) 590 fibers/ml d) 40 fibers/ml e) <20 fibers/ml f) <30 fibers/ml	a) 82 yr old male ingesting unfiltered Lake Superior water b) Same subject-1 yr after beginning ingestion of filtered tap water c) 27 yr old male ingesting unfiltered Lake Superior water d) Same subject-2 mo after beginning ingestion of filtered tap water e) 25 yr old male-never ingested Lake Superior water f) 4 yr old male-never ingested Lake Superior water 10 other samples (subjects) reported. Detection limit was 10-40 fibers/ml. Normal males aged 25-83, normal females aged 30-55, Diluth, Minnestoa. Contaminated drinking water MINNESOTA; DRINKING WATER; ASBESTOS; FIBERS; URINE; WATER POLLUTION; CARCINOGEN	Cook, P.M. Olson, G.F. 1979

Antimony
7440-36-0
Sb, AtW 121.75, MP 630 C, BP 1635 C, VP 1 mm Hg at 886 C, 10 mm Hg at 960 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
14 Adrenal gland		Rhodamine B Method	9	< 0.01-0.43 ug/g wet wt	0.073 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
15 Blood		Rhodamine B Method	7	< 0.01-0.06 ug/g wet wt	0.016 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Antimony
7440-36-0
Sb, At# 121.75, MP 630 C, BP 1635 C, VP 1 mm Hg at 886 C, 10 mm Hg at 960 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
16 Brain		Rhodamine B Method	a) 9 b) 10	a) < 0.01-0.07 ug/g wet wt b) < 0.01-0.10 ug/g wet wt	0.017 ug/g wet wt 0.030 ug/g wet wt	a) Cerebrum b) Cerebellum Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
17 Heart		Rhodamine B Method	15	< 0.01-0.12 ug/g wet wt	0.032 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Antimony
7440-36-0
Sb, At# 121.75, MP 630 C, BP 1635 C, VP 1 mm Hg at 886 C, 10 mm Hg at 986 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
18 Intestine			a) 29 b) 29	a) < 0.01-0.15 ug/g wet wt b) < 0.01-0.21 ug/g wet wt	a) 0.039 ug/g wet wt b) 0.047 ug/g wet wt	a) Small intestine b) Large intestine Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
19 Kidney		Rhodamine B Method	29	< 0.01-0.14 ug/g wet wt	0.043 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Antimony
7440-36-0
Sb, [illegible], mp 630 C, bp 1635 C, VP 1 mm Hg at 886 C, Tc as Hg at 960 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
20 Liver		Rhodamine B Method	11	< 0.01-0.07 ug/g wet wt	0.023 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
21 Lung		Rhodamine B Method	22	< 0.01-0.20 ug/g wet wt	0.062 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Antimony
7440-36-0
Sb, Atw 121.75, mp 630 C, bp 1635 C, VP 1 mm Hg at 886 C, 10 mm Hg at 969 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
22 Muscle		Rhodamine B Method	3	< 0.01-0.10 ug/g wet wt	Not given	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
23 Pancreas		Rhodamine B Method	28	< 0.01-0.10 ug/g wet wt	0.030 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Antimony
7440-36-0
Sb, Mw 121.75, MP 630 C, BP 1635 C, VP 1 mm Hg at 886 C, 10 mm Hg at 986 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
24 Skin		NA	a) 5 b) 5 c) 10 (Samples)	a) 0.09-0.4 ug/g dry wt b) 0.08-0.4 ug/g dry wt c) 0.03-0.4 ug/g dry wt	a) 0.22 ug/g dry wt b) 0.22 ug/g dry wt c) 0.14 ug/g dry wt	a) Normal b) Psoriatic uninvolved c) Psoriatic involved Losses due to desquamation up to half normal urinary excretion of Sb in subjects with whole-body psoriatic involvement. Specimens from trunk region of 14 males in Sweden. 9 were suffering from psoriasis (ages 0-59 yr, mean 46), and 5 had no evidence of skin disorder (ages 19-57 yr, mean 33). BROMINE; CADMIUM; CHROMIUM; MOLYBDENUM; RUBIDIUM; SELENIUM; ARSENIC; GOLD; CESIUM; MERCURY; LANTHANUM; ANTIMONY; SCANDIUM; SAMARIUM; TUNGSTEN; EPIDERMIS; SKIN DISEASES; METALS; TRACE ELEMENTS	Rolin, I. Wester, P.O. 1974
25 Skin		Rhodamine B Method	23	< 0.01-0.35 ug/g wet wt	0.096 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Antimony
7440-36-0
Sb, Atw 121.75, MP 630 C, BP 1635 C, VP 1 mm Hg at 886 C, 10 mm Hg at 969 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
26 Spleen		Rhodamine B Method	8	< 0.01-0.07 ug/g wet wt	0.029 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
27 Trachea		Rhodamine B Method	8	0.02-0.09 ug/g wet wt	0.045 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

Arochlor 1242 (No postings in CHEMLINE).

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
28 Blood	Skin Inhalation	GC	a) 34 b) 30	a) Not given b) Not given	a) 400 ppb approx b) None detected	a) Exposed group b) Controls Aroclor level is based on retention times of metabolites relative to aldrin. 34 occupationally exposed workers [15 males and 19 females], 33-55 yr old. Control group of 23 males and 7 females, 29-50 yr old. Burning sensation of face and hands, nausea, and persistent body odor. Chloracne, eczematous rash on legs and hands. BLOOD; BIPHENYL COMPOUNDS; CHLORINE ORGANIC COMPOUNDS; INDUSTRIAL PLANTS; OCCUPATIONAL HAZARDS; SKIN DISEASES; HEALTH HAZARDS; POLYCHLORINATED BIPHENYLS; AUSTRALIA	Ouw, H.K. Simpson, G.R. Siyali, D.S. 1976

Arochlor 1254
11097-69-1
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
29 Milk		GC GC/MS	a) 6 b) 9	a) 0.015-0.030 ppm b) 0.011-0.032 ppm	a) 0.022 ppm b) 0.018 ppm	a) New Brunswick women b) Nova Scotia women Six lactating mothers from New Brunswick and 9 from Nova Scotia. MILK; BREAST; CANADA; PESTICIDES; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; LACTATION; POLYCHLORINATED BIPHENYLS; DDT; DDE	Musial, C.J. Hutzinger, O. Zitko, V. Crocker, J. 1974

Arsenic
7440-38-2
As
AtW 74.9216, MP 817 C at 28 atm, BP 613 C (sublimes), VP 1 mm Hg at 380 C, 10 mm Hg at 440 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
30 Adipose		Colorimetry	3	0.035-0.065 ug/g wet wt	Not given	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
31 Adipose		AAS	3	0.041-0.065 ug/g wet wt	0.058 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Arsenic
7440-38-2
As
At# 74.9216, MP 817 C at 28 atm, BP 613 C (sublimes), VP 1 mm Hg at 380 C, 10 mm Hg at 440 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
32 Adrenal gland		AAS	9	0.22-1.25 ug/g wet wt	0.69 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
33 Blood	Inhalation Ingestion	WA	20, 10 Controls	a) 0.0025-0.0082 ug/g b) 0.0005-0.0032 ug/g c) 0.0005-0.0038 ug/g	a) 0.00453 ug/g b) 0.00145 ug/g c) 0.00188 ug/g	a) Heavily polluted area b) 36 km from source c) Controls Other data available. Samples from groups of 10 year old boys in Czechoslovakia. Plumes from power plant burning coal with arsenic content ARSENIC; HAIR; URINE; BLOOD; CHILDREN; CZECHOSLOVAKIA; COAL; FOSSIL FUELED POWER PLANTS; FLY ASH; POPULATION EXPOSURE; SOILS; BIOINDICATORS; AIR POLLUTION	Bencko, V. Symon, K. 1977a

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Arsenic
7440-38-2
As
AtW 74.9216, MP 817 C at 28 atm, BP 613 C (sublimes), VP 1 mm Hg at 380 C, 10 mm Hg at 440 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
34 Blood	Ingestion		a) 11 b) 9	a) 10-90 ppb b) 90-360 ppb	a) 32 ppb b) 251 ppb	a) Water As-low b) Water As-rich Analytical method not given. Other data available. Samples from Oregon residents living in various cities, some where arsenic levels in water are known to be low and some whose towns overlie geologic formations associated with arsenic-rich ground water. Water is analyzed for arsenic when a patient exhibits symptoms resembling arsenic toxicity. No relationship was found between arsenic levels in drinking water and skin cancer. ARSENIC; METALS; POPULATION EXPOSURE; GROUND WATER POLLUTION; DRINKING WATER; WATER POLLUTION; OREGON; BLOOD	Whanger, P.D. Weswig, P.H. Stoner, J.C. 1977
35 Blood		AAS	a) 10 b) 10 c) 10	a) 2.5-8.2 ppb b) 0.5-3.2 ppb c) 0.5-3.8 ppb	a) 4.53 ppb b) 1.45 ppb c) 1.88 ppb	a) Most heavily polluted area b) 36 km from source of emission c) Controls outside polluted area in a large industrial city BLOOD; URINE; HAIR; ARSENIC; CHILDREN; METALS; CZECHOSLOVAKIA	Bencko, V. Symon, K. 1977b

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Arsenic
7440-38-2
As
AtW 74.9216, MP 817 C at 28 atm, BP 613 C (sublimes), VP 1 mm Hg at 380 C, 10 mm Hg at 440 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
36 Blood			5, 5 Controls	a) 0.03-0.08 ppm b) 0.20-0.27 ppm c) 0.01-0.06 ppm d) 0.01-0.05 ppm e) 0.03-0.07 ppm f) 0.01-0.13 ppm g) 0.01-0.03 ppm	a) 0.05 ppm b) 0.26 ppm c) 0.03 ppm d) 0.02 ppm e) 0.05 ppm f) 0.06 ppm g) 0.02 ppm	a) 1st week of exposure b) 3rd week of exposure c) 7th week of exposure d) 11th week of exposure e) 1st week - control f) 6th week - control g) 11th week - control 5 occupationally exposed Forest Service workers at Waldport, OR, during a 2-month period. 5 unexposed workers selected as controls. BLOOD; URINE; ARSENIC; FORESTRY; ARSENIC ORGANIC COMPOUNDS; BIOACCUMULATION; METALS; OREGON	Wagner, S.L. Weswig, P.H. 1974
37 Blood		Colorimetry	3	0.050-0.060 ug/g wet wt	Not given	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Arsenic
7440-38-2
As
AtW 74.9216, MP 817 C at 28 atm, BP 613 C (sublimes), VP 1 mm Hg at 380 C, 10 mm Hg at 440 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
38 Blood		AAS	27	0.012-0.27 ug/g wet wt	0.068 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
39 Bone		AAS	16	< 0.01-0.17 ug/g wet wt	0.074 ug/g wet wt	Rib Samples Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Arsenic
7440-38-2
As
AtW 74.9216, MP 817 C at 28 atm, BP 613 C (sublimes), VP 1 mm Hg at 380 C, 10 mm Hg at 480 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
40 Brain		AAS	a) 10 b) 10	a) 0.11-0.46 ug/g wet wt b) 0.12-0.53 ug/g wet wt	a) 0.25 ug/g wet wt b) 0.36 ug/g wet wt	a) Cerebrum b) Cerebellum Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM ; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
41 Hair	Inhalation Ingestion	Colorimetry	46, 44 Controls	a) 0.630-8.080 ug/g b) 0.000-0.900 ug/g c) 0.000-1.130 ug/g	a) 3.261 ug/g b) 0.295 ug/g c) 0.152 ug/g	a) Heavily polluted area b) 36 km from source c) Controls Other data available. Samples from groups of 10 year old boys in Czechoslovakia. Plumes from power plant burning coal with arsenic content ARSENIC; HAIR; URINE; BLOOD; CHILDREN; CZECHOSLOVAKIA; COAL; FOSSIL FUELED POWER PLANTS; FLY ASH; POPULATION EXPOSURE; SOILS; BIOINDICATORS; AIR POLLUTION	Bencko, V. Symon, K. 1977a

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Arsenic
7440-38-2
As
AtW 74.9216, MP 817 C at 28 atm, BP 613 C (sublimes), VP 1 mm Hg at 380 C, 10 mm Hg at 440 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
#2 Hair	Ingestion Inhalation	AAS	a) 872 b) 160	a) Not given b) Not given	a) 2.60 ug/g b) 0.9 ug/g	a) Smelter area b) Controls Samples from children living in 19 towns with primary non-ferrous smelters. Control group of same ages in three communities without smelters. Very little is known of health effects in children from low-level exposure. Chronic exposure may be causing undetected latent disease. Stack emissions ARSENIC; LEAD; CADMIUM; HAIR; URINE; BLOOD; ERYTHROCYTES; SMELTERS; COPPER; ZINC; CHILDREN; POPULATION EXPOSURE; METALS; AIR POLLUTION; WATER POLLUTION; NEW MEXICO; MISSOURI; ARIZONA; MONTANA; TENNESSEE; NEVADA; MICHIGAN; OKLAHOMA; TEXAS; PENNSYLVANIA	Baker, E.L., Jr. Hayes, C.G. Landrigan, P.J. Handke, J.L. Leger, R.T. Housworth, W.J. Harrington, J.M. 1977
#3 Hair		Colorimetry	a) 23 b) 23 c) 44	a) 630-8080 ppb b) 0-900 ppb c) 0-1130 ppb	a) 3261 ppb b) 295 ppb c) 152 ppb	a) Most heavily polluted area b) 36 km from source of emission c) Controls outside polluted area in a large industrial city BLOOD; URINE; HAIR; ARSENIC; CHILDREN; METALS; CZECHOSLOVAKIA	Benes, V. Syson, K. 1977b

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Arsenic
7440-38-2
As
AtW 74.9216, MP 817 C at 28 atm, BP 613 C (sublimes), VP 1 mm Hg at 380 C, 10 mm Hg at 440 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
44 Hair		Colorimetry	a) 39 b) 74 c) 94 d) 48 e) 48	a) Not given b) Not given c) Not given d) 20-1550 ug/100 g e) 27-6014 ug/100 g	a) 668.9 + or - 500.9 ug/100 g b) 334 + or - 461 ug/100 g c) 794.4 + or - 1244.7 ug/100 g d) 287.2 ug/100 g e) 730.9 ug/100 g	a) Industrial process - zinc sulfate b) Industrial process - cadmium-zinc refinery-1972 c) Industrial process - cadmium-zinc refinery-1975 d) Industrial process - cadmium-zinc refinery-workers e) Industrial process - cadmium-zinc refinery-workers re-examined, 1975 Hair As levels in residents of 5 urban areas for total of 123 people: 363, 176.2, 37.8, 55.7, 34.8 ug/100 g ARSENIC; URINE; HAIR; OCCUPATIONAL HAZARDS; METALS	Gabor, S. Coldea, V. 1977
45 Hair	Inhalation		a) 13 b) 7	a) Approx 19-approx 99 ppm b) 0-approx 5 ppm	a) Approx 61 ppm b) Approx 1.3 ppm	a) Ruston school children (300 yd from smelter) b) Fern Hill school children (8 miles form smelter) Estimated from figures Arsenic levels of 3rd and 4th grade children at Ruston School (300 yards from the smelter) compared with those of similar students at Fern Hill Elementary School (8 miles away). Hair specimen containers were sent home with children at the end of the school year and returned over the summer. ARSENIC; URINE; COPPER; WASHINGTON; HAIR; DUST; NEOPLASMS; METALS; AGE; CHILDREN; AIR POLLUTION; OCCUPATIONAL HAZARDS; SMELTERS	Milham, S., Jr. Strong, T. 1974

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Arsenic
7440-38-2
As
AtW 74.9216, MP 817 C at 28 atm, BP 613 C (sublimes), VP 1 mm Hg at 380 C, 10 mm Hg at 440 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
46 Hair			a) 44 b) 69 c) 14 d) 5 e) 25	a) > 1 ppm b) < or/= to 1 ppm c) > 2 ppm d) > 1 < or/= to 2 ppm e) < or/= to 1 ppm	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 17 of 44 showed signs of arsenic poisoning in clinical tests b) 30 of 69 showed signs of arsenic poisoning in clinical tests c) 7 or 14 had electromyographic abnormalities d) 3 of 5 had electromyographic abnormalities e) 0 of 25 total had electromyographic abnormalities. Samples from 92 people using wells with high As and 27 using wells with As of 0.05 ppm or less, all in Waverly, Nova Scotia. ARSENIC; HAIR; BIOACCUMULATION; CASE HISTORIES; DRINKING WATER; CANADA; NEUROMUSCULAR DISEASES	Hindmarsh, J.T. McLetchie, O.R. Heffernan, L.P.M. Hayne, O.A. Ellenberger, H.A. McCurdy, R.F. Thiebaux, H.J. 1977

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Arsenic
7440-38-2
As
At# 74.9216, MP 817 C at 28 atm, BP 613 C (sublimes), VP 1 mm Hg at 386 C, 10 mm Hg at 440 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
47 Hair		Colorimetry	61	a) Not given b) Not given c) Not given d) Not given	a) Approx 1.7 ug/g b) Approx 1.9 ug/g c) 49.5 ug/g d) 0.3 ug/g	a) Roasters or smelters b) Ore dressers c) Miners d) Clerical Levels in miners returned to 2.45 and 1.84 ug/g 3 and 6 months, respectively, after the examination. Most values estimated from graph. Samples from retired workers of Matsuo Arsenic Mine of Miyazaki prefecture in Japan. 8 cases of pneumoconiosis were found in 48 miners. Symptoms of chronic poisoning, arsenodermatitis, depigmentation, perforation of nasal septum, hyposmia, anosmia, peripheral nervous disturbances found in 9 of 21 roasters who worked in an kitchen. Uncontrolled environment in the mine. ARSENIC; OCCUPATIONAL HAZARDS; MINING; JAPAN	Ishinishi, N. Kodama, Y. Nobutomo, K. Inamasu, T. Kunitake, E. Suenaga, Y. 1977
48 Hair		Colorimetry	a) 21 b) 20	a) 0.3-6.1 ppm b) 0.08-0.38 ppm	a) 2.1 ppm b) 0.12 ppm	a) Rural Irish children, close to zinc and copper mine b) Urban Irish children, controls 21 children (18 male, 3 female, aged 5-12 yr) whose school was close to an open-cast mine in County Tipperary, and 20 Cork City children (18 male, 2 female, same age group). ZINC; MERCURY; ARSENIC; LEAD; COPPER; METALS; CHILDREN; HAIR; UNITED KINGDOM; INDUSTRIAL POLLUTION	Corridan, J.P. 1974

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Arsenic
7440-38-2
As
AtW 74.9216, MP 817 C at 28 ata, BP 613 C (sublimes), VP 1 mm Hg at 380 C, 10 mm Hg at 440 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
49 Heart		Colorimetry	5	0.017-0.060 ug/g wet wt	0.040 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
50 Heart		AAS	25	0.083-0.83 ug/g wet wt	0.21 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Arsenic
7440-38-2
As
Atw 74.9216, MP 817 C at 28 atm, BP 613 C (sublimes), VP 1 mm Hg at 380 C, 10 mm Hg at 480 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
51 Intestine		Colorimetry	a) 3 b) 2	a) 0.090-0.11 ug/g wet wt b) 0.032-0.13 ug/g wet wt	a) 0.10 ug/g wet wt b) Not given	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sunino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
52 Intestine		AAS	28	a) 0.12-2.3 ug/g wet wt b) 0.23-4.0 ug/g wet wt	a) 0.86 ug/g wet wt b) 1.2 ug/g wet wt	a) Small intestine b) Large intestine Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sunino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Arsenic
7440-38-2
As
At# 74.9216, BP 817 C at 28 atm, BP 613 C (sublimes), VP 1 mm Hg at 180 C, 10 mm Hg at 440 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
53 Kidney		Colorimetry	4	0.085-0.095 ug/g wet wt	0.074 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
54 Kidney		AAS	30	0.11-1.0 ug/g wet wt	0.56 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Arsenic
7440-38-2
As
Atw 74.9216, MP 817 C at 28 atm, BP 613 C (sublimes), VP 1 mm Hg at 380 C, 10 mm Hg at 440 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
55 Liver		Colorimetry	4	0.033-0.070 ug/g wet wt	Not given	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
56 Liver		AAS	30	0.45-2.7 ug/g wet wt	1.2 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Arsenic
7440-38-2
As
AtW 74.9216, MP 817 C at 28 atm, BP 613 C (sublimes), VP 1 mm Hg at 380 C, 10 mm Hg at 440 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
57 Lung		Colorimetry	7	0.044-0.065 ug/g wet wt	Not given	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
58 Lung		AAS	28	0.067-0.38 ug/g wet wt	0.22 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Arsenic
7440-38-2
As
AtW 74.9216, MP 817 C at 28 atm, BP 613 C (sublimes), VP 1 mm Hg at 380 C, 10 mm Hg at 440 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
59 Muscle		Colorimetry	3	0.043-0.095 ug/g wet wt	Not given	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
60 Muscle		AAS	19	0.014-0.24 ug/g wet wt	0.090 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Arsenic
7440-38-2
As
AtW 74.9216, MP 817 C at 28 atm, BP 613 C (sublimes), VP 1 mm Hg at 380 C, 10 mm Hg at 440 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
61 Ovary		AAS	6	0.78-0.40 ug/g wet wt	0.19 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
62 Pancreas		Colorimetry	3	0.033-0.085 ug/g wet wt	Not given	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Arsenic
7440-38-2
As
AtW 74.9216, MP 817 C at 28 atm, BP 613 C (sublimes), VP 1 mm Hg at 380 C, 10 mm Hg at 480 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
63 Pancreas		AAS	30	0.26-1.3 ug/g wet wt	0.77 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
64 Placenta			58	a) Not given b) Not given c) Not given d) Not given	a) 0.001 ug/g wet wt b) 0.003 ug/g wet wt c) 0.001 ug/g wet wt d) 0.001 ug/g wet wt	a) All cities b) Augusta, GA c) Birmingham, AL d) Charlotte, NC Metal levels correlated with enzyme activities. Samples from 58 normal placentas collected immediately at delivery in hospitals in Charlotte, NC, Birmingham, AL and Augusta, GA. PLACENTA; MANGANESE; BARIUM; CADMIUM; SELENIUM; MERCURY; TIN; VANADIUM; BERYLLIUM; SILVER; COBALT; NICKEL; CHROMIUM; COPPER; ZINC; LEAD; IRON; PLATINUM; BORON; ARSENIC; LITHIUM; METALS; TRACE ELEMENTS; ENZYMES; NORTH CAROLINA; ALABAMA; GEORGIA	Karp, W.B. Robertson, A.F. 1977

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Arsenic
7440-38-2
As
AtW 74.9216, MP 817 C at 28 atm, BP 613 C (sublimes), VP 1 mm Hg at 380 C, 10 mm Hg at 340 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
65 Skin		NA	a) 5 b) 5 c) 10 (Samples)	a) 0.09-0.5 ug/g dry wt b) 0.04-0.2 ug/g dry wt c) 0.03-0.2 ug/g dry wt	a) 0.23 ug/g dry wt b) 0.13 ug/g dry wt c) 0.09 ug/g dry wt	a) Normal b) Psoriatic uninvolved c) Psoriatic involved Specimens from trunk region of 14 males in Sweden. 9 were suffering from psoriasis (ages 0-59 yr, mean 36), and 5 had no evidence of skin disorder (ages 19-57 yr, mean 33) BROMINE; CADMIUM; CHROMIUM; MOLYBDENUM; RUBIDIUM; SELENIUM; ARSENIC; GOLD; CESIUM; MERCURY; LANTHANUM; ANTIMONY; SCANDIUM; SAMARIUM; TUNGSTEN; EPIDERMIS; SKIN DISEASES; METALS; TRACE ELEMENTS	Nolin, L. Wester, P.O. 1974
66 Skin		AAS	18	0.020-0.46 ug/g wet wt	0.14 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Arsenic
7440-38-2
As
AtW 74.9216, MP 817 C at 28 atm, BP 613 C (sublimes), VP 1 mm Hg at 380 C, 10 mm Hg at 440 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
67 Spleen		Colorimetry	2	0.015-0.065 ug/g wet wt	Not given	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
68 Spleen		AAS	17	0.010-0.13 ug/g wet wt	0.080 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Arsenic
7440-38-2
As
At# 74.9216, MP 817 C at 28 atm, BP 613 C (sublimes), VP 1 mm Hg at 380 C, 10 mm Hg at 440 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
69 Testicle		AAS	13	0.08-0.33 ug/g wet wt	0.20 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
70 Trachea		AAS	14	0.083-0.38 ug/g wet wt	0.20 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Arsenic
7440-38-2
As
AtW 74.9216, MP 817 C at 26 atm, BP 613 C (sublimes), VP 1 mm Hg at 380 C, 10 mm Hg at 440 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
71 Urine	Ingestion	NA	1	a) 0.5-11 ppb b) 0.5-11 ppb c) 8.0-39 ppb d) 3.0-17 ppb	a) Not given b) Not given c) Not given d) Not given	a) As+3 b) As+5 c) DMAA (dimethylarsinic acid) d) MAA (methylarsonic acid) Concentrations after ingestion of wine containing 50 ug As+3 and 13 ug As+5 (values estimated from graph). Samples from 30 yr old male, body wt of 70 kg 10 hr - arsenite 30 hr - methylated arsenic compounds Wine ARSENIC; URINE; ALCOHOLIC BEVERAGES; METALS; METABOLITES; FOODS	Crecelius, E.A. 1975
72 Urine	Inhalation Ingestion	Colorimetry	45, 24 Controls	a) 0.001-0.105 ug/g b) 0.000-0.076 ug/g c) 0.001-0.044 ug/g	a) 0.0253 ug/g b) 0.0082 ug/g c) 0.0109 ug/g	a) Heavily polluted area b) 36 km from source c) Controls Other data available. Samples from groups of 10 year old boys in Czechoslovakia. Plumes from power plant burning coal with arsenic content ARSENIC; HAIR; URINE; BLOOD; CHILDREN; CZECHOSLOVAKIA; COAL; FOSSIL FUELED POWER PLANTS; FLY ASH; POPULATION EXPOSURE; SOILS; BIOINDICATORS; AIR POLLUTION	Bencko, V. Symon, K. 1977a

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Atw 74.9216, MP 817 C at 28 atm, BP 613 C (sublimes), VP 1 mm Hg at 380 C, 10 mm Hg at 440 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
73 Urine	Ingestion Inhalation	AAS	a) 712 b) 193	a) Not given b) Not given	a) 18.7 ug/l b) 5.8 ug/l	a) Smelter area b) Controls Samples from children living in 19 towns with primary non-ferrous smelters. Control group of same ages in three communities without smelters. Very little is known of health effects in children from low-level exposure. Chronic exposure may be causing undetected latent disease. Stack emissions ARSENIC; LEAD; CADMIUM; HAIR; URINE; BLOOD; ERYTHROCYTES; SMELTERS; COPPER; ZINC; CHILDREN; POPULATION EXPOSURE; METALS; AIR POLLUTION; WATER POLLUTION; NEW MEXICO; MISSOURI; ARIZONA; MONTANA; TENNESSEE; NEVADA; MICHIGAN; OKLAHOMA; TEXAS; PENNSYLVANIA	Baker, E.L., Jr. Hayes, C.G. Landrigan, P.J. Handke, J.L. Leger, R.T. Houseworth, W.J. Harrington, J.M. 1977
74 Urine		Colorimetry	a) 25 b) 20 c) 24	a) 1-105 ppb b) 0-36 ppb c) 1-44 ppb	a) 25.3 ppb b) 8.2 ppb c) 10.9 ppb	a) Most heavily polluted area b) 36 km from source of emission c) Controls outside polluted area in a large industrial city BLOOD; URINE; HAIR; ARSENIC; CHILDREN; METALS; CZECHOSLOVAKIA	Benesko, V. Symon, K. 1977b
75 Urine		Colorimetry	a) 49 b) 78	a) Not given b) Not given	a) 0.021 + or - 0.017 mg/l b) 0.023 + or - 0.032 mg/l	a) Industrial process - zinc sulfate b) Industrial process - cadmium-zinc refinery ARSENIC; URINE; HAIR; OCCUPATIONAL HAZARDS; METALS; ROMANIA	Gabor, S. Coldea, V. 1977

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AtW 74.9216, MP 817 C at 28 atm, BP 613 C (sublimes), VP 1 mm Hg at 380 C, 10 mm Hg at 440 C
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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
76 Urine			5, 5 Controls	a) 13-77 ug/24 hr b) 104-256 ug/24 hr c) 81-519 ug/24 hr d) 8-212 ug/24 hr e) 24-201 ug/24 hr f) 11-127 ug/24 hr g) 4-89 ug/24 hr	a) 38 ug/24 hr b) 172 ug/24 hr c) 204 ug/24 hr d) 68 ug/24 hr e) 73 ug/24hr f) 42 ug/24 hr g) 26 ug/24 hr	a) 1st week of exposure b) 4th week of exposure c) 6th week of exposure d) 8th week of exposure e) 10th week of exposure f) 2nd week - control g) 6th week - control h) 11th week - control 5 occupationally exposed Forest Service workers at Waldport, OR, during a 2-month period. 5 unexposed workers selected as controls. BLOOD; URINE; ARSENIC; FORESTRY; ARSENIC ORGANIC COMPOUNDS; BIOACCUMULATION; METALS; OREGON	Wagner, S.L. Wenzig, P.M. 1978

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AtW 74.9216, MP 817 C at 28 atm, BP 613 C (sublimes), VP 1 mm Hg at 380 C, 10 mm Hg at 440 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
77 Urine	Inhalation		a) 19 b) 16 c) 7 d) 6	a) 0.01-0.30 ppm b) 0.01-0.22 ppm c) Not given d) Not given	a) 0.097 ppm b) 0.034 ppm c) 0.30 ppm d) 0.02 ppm	a) Ruston school children (300 yd from smelter) b) Fern Hill school children (8 miles from smelter) c) 0-0.4 mile from stack d) 2.0-2.4 miles from stack a) and b) estimated from figures. Change in prevailing wind direction affects urinary As. Parents working outside area had lower urinary As (mean=0.05 ppm). 2 at smelter had higher levels (mean=0.28 ppm). Younger children had higher levels than older children or adults. Case numbers estimated from figures. Arsenic levels of 3rd and 4th grade children at Ruston School (300 yards from the smelter) compared with those of similar students at Fern Hill Elementary School (8 miles away). Urine also collected from members of 6 families in the Ruston area. ARSENIC; URINE; COPPER; WASHINGTON; HAIR; DUST; NEOPLASMS; METALS; AGE; CHILDREN; AIR POLLUTION; OCCUPATIONAL HAZARDS; SMELTERS	Milham, S., Jr. Strong, T. 1974
78 Urine		X-ray Spectrometry	a) 15 b) 19	a) 8-49 ug/day b) 11.5-75.5 ug/day	a) 20.9 ug/day b) 39.1 ug/day	a) Seattle, 1965 b) Denver, 1972 URINE; ARSENIC; MEASUREMENT METHODS; METALS; WASHINGTON; COLORADO	Mathies, J.C. 1974
79 Urine		NA		0.022-0.025 mg/l	0.023 mg/l	"Normal" freeze-dried URINE; TRACE ELEMENTS; METALS; SELENIUM; COPPER; ARSENIC; NICKEL; CHROMIUM; COMPARATIVE EVALUATIONS	Gills, T.E. McClendon, L.T. Maienthal, E.J. Becker, D.A. Durst, R.A. LaFleur, P.D. 1974

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(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
80 Urine	Inhalation	ES	a) 41 b) 30 c) 23 d) 30	a) Not given b) Not given c) Not given d) Not given	a) 1.3 ug/l b) 2.2 ug/l c) 4.8 ug/l d) 8.6 ug/l Means are geometric.	a) Controls b) Low exposure c) Medium exposure d) High exposure Concentrations expressed as elemental Arsenic (III). Data available for As (V) and total urinary As. Copper smelter workers with 3 ranges of exposure. Control group of unexposed male workers. Ages ranged from 26-65, mean of 46 yr. All 4 groups averaged 20 cigarettes/day, 20 smoking yr. ARSENIC; METHYL RADICALS; URINE; COPPER; SMELTERS; OCCUPATIONAL HAZARDS; PARTICULATES	Smith, T.J. Crecelius, E.A. Reading, J.C. 1977
81 Urine	Inhalation	Colorimetry	24	38-539 ug/l	174 ug/l	Correlated with airborne As levels of 3-295 ug/cu m (mean value 53 ug/cu m, and increased significantly after consumption of seafood. Men occupationally exposed to arsenic trioxide. Copper smelter METALS; ARSENIC; URINE; INDUSTRIAL POLLUTION; FOODS; SMELTERS; AIR POLLUTION	Pinto, S.S. Varner, M.O. Nelson, K.W. Labbe, A.L. White, L.D. 1976

Arsine oxide, hydroxydimethyl- (8 CI)
Arsinic acid, dimethyl- (9 CI)
75-60-5
C2-H7-As-O2
MW 137.99, MP 200 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
82 Urine	Inhalation	ES	a) 84 b) 30 c) 23 d) 36	a) Not given b) Not given c) Not given d) Not given	a) 11.5 ug/l b) 17.0 ug/l c) 32.7 ug/l d) 64.1 ug/l Means are geometric.	a) Controls b) Low exposure c) Medium exposure d) High exposure Levels as As(V). Copper smelter workers with 3 ranges of arsenic exposure. Control group of unexposed male workers. Ages ranged from 25-65, mean of 46 yr. All 4 groups averaged 20 cigarettes/day, 20 smoking yr. ARSENIC; METHYL RADICALS; URINE; COPPER; SMELTERS; OCCUPATIONAL HAZARDS; PARTICULATES	Smith, T.J. Crecelius, E.A. Reading, J.C. 1977

Asbestos
1332-21-4
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
83 Lung	Inhalation	Microscopy	a) 17 b) 5 c) 1 d) 1 e) 0 f) 1 g) 3	For all: 0-20 ferruginous bodies/5 g tissue	Number ferruginous bodies/5 g tissue a) 0 b) 1 c) 2 d) 3 e) 4 f) 5 g) 6-20	The primary diagnoses for cases used included: carcinoma, sarcoma diabetes mellitus, tuberculosis, mitral stenosis with cardiac failure, thrombosis left ventricle, cerebral thrombosis. Data on ferruginous bodies in age groups and comparative data from New York (1971) are available. Autopsies performed from 1928-1932. Most deaths from non-neoplastic disease. 1 in 5 with cancer had pulmonary carcinoma. MASSACHUSETTS; NEW YORK; AUTOPSIES; ASBESTOS; LUNGS; CARCINOGEN; FIBERS	Gordon, P. Rosen, P.P. Savino, A. 19
84 Lung	Inhalation	EM	a) 14 b) 11 c) 52	a) 0-10(E+6)/4g tissue b) 10(E+3)-10(E+6)/4g tissue c) 0-10(E+3)/4g tissue	a) Not given b) Not given c) Not given	a) Ferruginous bodies - mesothelioma cases (10 had >10(E+2)) b) Ferruginous bodies - severe asbestosis cases c) Ferruginous bodies - unselected cases (48 had <10(E+2)) Counts of uncoated fibers are compared with those of asbestos bodies for 6 cases of severe asbestosis. Material from LeHavre, France. Controls were from general population. Exposure to both amphiboles and chrysotile. Cases involved pleural mesothelioma, asbestosis. Asbestosis cases had lung fibrosis and squamous carcinoma. FRANCE; ASBESTOS; OCCUPATIONAL HAZARDS; CARCINOGEN; LUNGS; FIBERS	Pondimore, A. Desbordes, J. 1974

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Asbestos
1332-21-4
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
85 Lung	Inhalation	EM	20	0-20000 fibers/EM grid	Not given	Range for miners' employment times from 1 mo-45 yr. Times between end of employment and death ranged from 0-33 yr. Relative percents of amphibole & other to chrysotile fibers given. Workers in chrysotile mines. Autopsy material. Present in postmortem lung samples: fibers of tremolite, crocidolite, amosite, talc, anthophyllite, amphibole. CANADA; LUNGS; MINING; ASBESTOS; OCCUPATIONAL HAZARDS; AUTOPSIES; FIBERS; CARCINOGEN	Pooley, F.D. 1976

Barbituric acid, 5-allyl-5-(1-methylbutyl)- (8 CI)
2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-(1-methylbutyl)-5-(2-propenyl)- (9 CI)
76-73-3
C12-H18-N2-03
MW 334

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
86 Blood		GC	a) 1 b) 1 c) 1	a) Not applicable b) Not applicable c) Not applicable	a) 3.0 mg/l b) 14.0 mg/l c) 38.0 mg/l	a) 2 other drugs also present b) Alcohol and 2 other drugs also present c) Liver blood level. Alcohol and 2 other drugs also present. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, H. Holder, A.T. Powell, B. 1979
87 Blood, whole	Ingestion	RIA		a) Not given b) Not given c) Not given d) Not given e) Not given	a) <12.5 ug/liter b) >1000 ug/liter c) 855 ug/liter d) 315 ug/liter e) 177 ug/liter	a) 0 b) 1 hr c) 24 hr d) 48 hr e) 72 hr Times after 400 mg dosage. Later immunoagglutination tests were positive for all times from 1 to 72 hr (177-1000 ug/liter). DRUGS; BLOOD; URINE	Heveran, J.E. Cox, M. Touchen, A. Bergamini, J.A. 1978
88 Kidney		GC	1	34.5-104.9 ug/g	69.7 ug/g	Range is for the 2 kidneys. Alcohol and 2 other drugs also present. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, H. Holder, A.T. Powell, B. 1979

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Barbituric acid, 5-allyl-5-(1-methylbutyl)- (8 CI)
2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-(1-methylbutyl)-5-(2-propenyl)- (9 CI)
76-73-3
C12-H18-N2-O3
MW 238

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
89 Liver		GC	1	Not applicable	15 ug/g	Samples of blood, liver and urine from fatal intoxications were collected at autopsy. AUTOPSIES; BLOOD; URINE; LIVER; DRUGS	Norheim, G. 1976
90 Liver		GC	1	Not applicable	75.5 ug/g	Alcohol and 2 other drugs also present. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, H. 1979
91 Lung		GC	1	81.4-112.3 ug/g	96.8 ug/g	Range is for right and left lung. Alcohol and 2 other drugs also present. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, H. 1979

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Barbituric acid, 5-allyl-5-(1-methylbutyl)- (8 CI)
2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-(1-methylbutyl)-5-(2-propenyl)- (9 CI)
76-73-3
C12-H18-N2-O3
MW 334

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
92 Spleen		GC	1	Not applicable	244.3 ug/g	Alcohol and 2 other drugs also present. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, H. 1979
93 Urine		GC	1	Not applicable	2.0 mg/l	2 other drugs also present. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, H. 1979
94 Urine	Ingestion	RIA		a) Not given b) Not given c) Not given d) Not given e) Not given	a) 0 b) >1000 ug/liter c) >1000 ug/liter d) >1000 ug/liter e) 390 ug/liter	a) 0 b) 0-4 hr c) 8-12 hr d) 48-72 hr e) 96-120 hr Times after 100 mg dose. Latex agglutination tests were positive for all concentrations (390->1000 ug/liter). DRUGS; BLOOD; URINE	Heveran, J.E. Cox, M. Tonchen, A. Pergamini, J.A. 1978

Barbituric acid, 5-ethyl-5-(1-methylbutyl)- (8 CI)
2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-ethyl-5-(1-methylbutyl)- (9 CI)
76-74-4
C11-H18-N2-03

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
95 Blood, whole	Ingestion	RIA		a) Not given b) Not given c) Not given d) Not given e) Not given	a) 0 b) 220 ug/liter c) 315 ug/liter d) 145 ug/liter e) 355 ug/liter	a) 0 hr b) 1 hr c) 4 hr d) 48 hr e) 72 hr Times after 100 mg dose. Latex immunoagglutination tests were positive for concentrations of 145 ug/liter and higher. DRUGS; BLOOD; URINE	Neveran, J.E. Cox, M. Tonchen, A. Bergamini, J.A. 1978
96 Urine	Ingestion	RIA		a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) 0 b) 120 ug/liter c) 660 ug/liter d) 550 ug/liter e) 830 ug/liter f) >1000 ug/liter g) 510 ug/liter	a) 0 hr b) 0-1 hr c) 4-8 hr d) 8-12 hr e) 12-24 hr f) 24-48 hr g) 96-120 hr Times after 100 mg dose. Latex immunoagglutination tests were positive for concentrations of 510->1000 ug/liter (inconclusive at 550 ug/liter). DRUGS; BLOOD; URINE	Neveran, J.E. Cox, M. Tonchen, A. Bergamini, J.A. 1978

Barbituric acid, 5-ethyl-5-(1-methylbutyl)-, sodium salt (8 CI)
2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-ethyl-5-(1-methylbutyl)-, monosodium salt (9 CI)
57-33-0
C11-H18-N2-O3.Na

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
97 Blood, serum	Ingestion Rectal	GC UV	16	a) 0.54-1.63 ug/ml b) 0.42-1.69 ug/ml c) 0.50-1.66 ug/ml d) 0.33-0.89 ug/ml e) 0.33-0.79 ug/ml f) 0.079-0.230 ug/ml g) 0.225-0.679 ug/ml h) 0.867-1.133 ug/ml i) 0.761-0.999 ug/ml j) 0.109-0.346 ug/ml k) 0.566-0.968 ug/ml l) 0.820-1.280 ug/ml m) 0.743-0.749 ug/ml	a) 1.12 ug/ml b) 1.37 ug/ml c) 1.18 ug/ml d) 0.67 ug/ml e) 0.59 ug/ml f) 0.099 ug/ml g) 0.464 ug/ml h) 1.019 ug/ml i) 0.899 ug/ml j) 0.263 ug/ml k) 0.696 ug/ml l) 0.982 ug/ml m) 0.746 ug/ml	a) 0.5 hr b) 1.0 hr c) 1.5 hr d) 6.0 hr e) 24 hr f) 1.5 hr g) 4.0 hr h) 10 hr i) 12 hr j) 0.5 hr k) 1.5 hr l) 4 hr m) 12 hr levels after 100 mg oral dose, a)-e) or 120 mg rectal suppository, f)-i) capsule with cocoa butter-spermaceti base, j)-m), capsule with synthetic base. Healthy male volunteers 21 yr or older (weights 69.0-89.5 kg). 0.35-1.7 hr DRUGS; SEDATIVES; BLOOD SERUM	Dolusio, J.T. Smith, R.B. Chan, A.H.C. Dittert, L.W. 1978

Barbituric acid, 5-ethyl-5-isopentyl- (8 CI)
2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-ethyl-5-(3-methylbutyl)- (9 CI)
57-43-2
C11-H18-N2-03

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
98 Blood		GC	a) 1 b) 1 c) 1	a) Not applicable b) Not applicable c) Not applicable	a) 4.0 mg/l b) 14.0 mg/l c) 46.0 mg/l	a) 2 other drugs also present b) Alcohol and 2 other drugs also present c) Value is for liver blood. Alcohol and 2 other drugs also present 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, H. 1979
99 Blood, whole	Ingestion	RIA		a) Not given b) Not given c) Not given d) Not given e) Not given	a) 0 b) 37 ug/liter c) 360 ug/liter d) 260 ug/liter e) 15 ug/liter	a) 0 hr b) 1 hr c) 4 hr d) 24 hr e) 72 hr Times after 65 mg dose. Latex immunoagglutination tests were negative or inconclusive for all timepoints (15-360 ug/liter). DRUGS; BLOOD; URINE	Heveran, J.E. Cox, M. Tonchen, A. Bergamini, J.A. 1978
100 Kidney		GC	1	28.1-60.1 ug/g	44.1 ug/g	Range is for the 2 kidneys. Data for alcohol and 2 other drugs also available. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, H. 1979

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Barbituric acid, 5-ethyl-5-isopentyl- (8 CI)
2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-ethyl-5-(3-methylbutyl)- (9 CI)
57-43-2
C11-H18-N2-03

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
101 Liver		GC	1	Not applicable	68.3 ug/g	Alcohol and 2 other drugs also present. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, H. 1979
102 Lung		GC	1	78.2-86.6 ug/g	80.4 ug/g	Range is for right and left lung. Alcohol and 2 other drugs also present. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, H. 1979
103 Spleen		GC	1	Not applicable	19.1 ug/g	Alcohol and 2 other drugs also present. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, H. 1979

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Barbituric acid, 5-ethyl-5-isopentyl- (8 CI)
2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-ethyl-5-(3-methylbutyl)- (9 CI)
57-43-2
C11-H18-N2-03

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
104 Urine		GC	2	3.0-6.0 mg/l	4.5 mg/l	Other drugs also present. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, H. 1979
105 Urine	Ingestion	RIA		a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) 3 ug/liter b) 180 ug/liter c) 400 ug/liter d) 150 ug/liter e) 450 ug/liter f) 150 ug/liter g) 30 ug/liter	a) 0 hr b) 1-4 hr c) 4-8 hr d) 8-12 hr e) 12-24 f) 24-48 hr g) 96-120 hr Times after 65 mg dose. Latex immunoagglutination tests were positive only for concentrations 400 ug/liter or higher. DRUGS; BLOOD; URINE	Heveran, J.E. Cox, M. Tonchen, A. Bergamini, J.A. 1978

Barbituric acid, 5-ethyl-5-phenyl- (8 CI)
2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-ethyl-5-phenyl- (9 CI)
50-06-6
C12-H12-N2-O3
MW 232.23, MP 176-178 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
106 Blood	Ingestion		11	0-2.7 mg/dl	Not given	In 10 of 11 cases of premature deaths of known epileptics, the blood levels of the drug were below therapeutic levels (1.5-4.0 mg/dl). Deaths apparently from complications caused by epileptic seizures. DRUGS; ANTICONVULSANTS	Bowerman, D.L. Levisky, J.A. Urich, R.W. Wittenberg, P.H. 1978
107 Blood		Colorimetry	1	a) Not applicable b) Not applicable	a) 12.6 mg/l b) 12.6 mg/l	a) Peripheral blood b) Liver blood Amitriptyline also present. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, M.D. Sattar, H. Holder, A.T. Powell, R. 1979
108 Blood, plasma		GC	10 (17 samples)	9.1-39.5 ug/ml	26.0 ug/ml	Patients on primidone therapy. Dose rates not given. DRUGS; ANTICONVULSANTS; MEASUREMENT METHODS; BLOOD PLASMA; METABOLITES	Leal, F.W. Wilensky, A.J. Rapport, R.L. 1978
109 Blood, serum		GC	25	0-42 ug/ml	12.1 ug/ml	Epileptics (31 assays) 9 males on the laboratory staff, epileptic patients BLOOD SERUM; DIPHENYLHYDANTOINS; ANTICONVULSANTS; DRUGS; CENTRAL NERVOUS SYSTEM DISEASES	Miles, B.E. Attwood, E.C. Seddon, R.M. 1976

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Barbituric acid, 5-ethyl-5-phenyl- (8 CI)
2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-ethyl-5-phenyl- (9 CI)
50-06-6
C12-H12-N2-O3
MW 232.23, MP 174-178 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
110 Blood, whole	Ingestion	RIA		a) Not given b) Not given c) Not given d) Not given e) Not given	a) 0 b) 30 ug/liter c) 220 ug/liter d) 385 ug/liter e) 245 ug/liter	a) 0 hr b) 1 hr c) 2 hr d) 4 hr e) 72 hr Times after 64 mg dose. Latex immunoagglutination tests were positive for concentrations >220 ug/liter. DRUGS; BLOOD; URINE	Heveran, J.E. Cox, M. Tonchen, A. Bergamini, J.A. 1978
111 Urine	Ingestion	RIA		a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 0 b) 0 c) 95 ug/liter d) 195 ug/liter e) 135 ug/liter f) 180 ug/liter g) 255 ug/liter h) 150 ug/liter	a) 0 hr b) 0-1 hr c) 1-4 hr d) 4-8 hr e) 8-12 hr f) 12-24 hr g) 48-72 hr h) 96-120 Times after 64 mg dose. Latex immunoagglutination tests were positive for concentrations >150 ug/liter. DRUGS; BLOOD; URINE	Heveran, J.E. Cox, M. Tonchen, A. Bergamini, J.A. 1978

Barbituric acid, 5-sec-butyl-5-ethyl-, sodium salt (8 CI)
2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-ethyl-5-(1-methylpropyl)-, monosodium salt (9 CI)
143-81-7
C10-H16-N2-O3.Na

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
112 Blood, whole	Ingestion	RIA		a) Not given b) Not given c) Not given d) Not given e) Not given	a) 0 b) >500 ug/liter c) >500 ug/liter d) >500 ug/liter e) >500 ug/liter	a) 0 hr b) 1 hr c) 4 hr d) 12 hr e) 72 hr Times after 50 mg dose. Latex immunoagglutination tests were all positive except at 0 hr. DRUGS; BLOOD; URINE	Heveran, J.E. Cox, M. Tonchen, A. Bergamini, J.A. 1978
113 Urine	Ingestion	RIA		a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 0 b) 395 ug/liter c) >500 ug/liter d) 340 ug/liter e) 500 ug/liter f) 220 ug/liter	a) 0 hr b) 0-1 hr c) 1-4 hr d) 12-24 hr e) 48-72 hr f) 96-120 hr Times after 50 mg dose. Latex immunoagglutination tests were positive for 6 levels between 220 and >500 ug/liter, inconclusive for 2 levels >500 ug/liter. DRUGS; BLOOD; URINE	Heveran, J.E. Cox, M. Tonchen, A. Bergamini, J.A. 1978

Barium
7440-39-3
Ba
Atw 137.34, MP 710 C (approx), BP 1600 C (approx), VP 10 mm Hg at 1049 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
114 Liver		ES	10	Not given	0.67 ug/g	Arithmetric mean Geometric mean=0.56 ug/g Concentrations based on ash weight Samples from ten healthy adult males who were accident victims. METALS; SILVER; ALUMINUM; BARIUM; CADMIUM; COBALT; CHROMIUM; COPPER; IRON; MANGANESE; MOLYBDENUM; NICKEL; LEAD; TIN; STRONTIUM; TITANIUM; ZINC; LIVER	Perry, H.M., Jr. Perry, E.F. Hixon, B.B. 1977
115 Placenta			58	a) Not given b) Not given c) Not given d) Not given	a) 0.053 ug/g wet wt b) 0.006 ug/g wet wt c) 0.087 ug/g wet wt d) 0.069 ug/g wet wt	a) All cities b) Augusta, GA c) Birmingham, AL d) Charlotte, NC Metal levels correlated with enzyme activities. Samples from 58 normal placentas collected immediately at delivery in hospitals in Charlotte, NC, Birmingham, AL and Augusta, GA. PLACENTA; MANGANESE; BARIUM; CADMIUM; SELENIUM; MERCURY; TIN; VANADIUM; BERYLLIUM; SILVER; COBALT; NICKEL; CHROMIUM; COPPER; ZINC; LEAD; IRON; PLATINUM; BORON; ARSENIC; LITHIUM; METALS; TRACE ELEMENTS; ENZYMES; GEORGIA; ALABAMA; NORTH CAROLINA	Karp, W.B. Robertson, A.F. 1977

Benzaldehyde
100-52-7
C7-H6-O
MW 106.12, MP -26 C, BP 179 C, VP 1 mm Hg at 26.2 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
116 Adipose		GC/MS GC	25	5-53 ug/g	Not given	Workers in a styrene polymerization plant. OCCUPATIONAL HAZARDS; INDUSTRIAL PLANTS; STYRENES; BENZENES; BENZALDEHYDE; TOLUENE; ADIPOSE TISSUE; VINYL COMPOUNDS	Wolff, M.S. Daum, S.M. Lorimer, W.V. Selikoff, I.J. Aubrey, B.B. 1977

Benzamide, p-amino-N-[2-(diethylamino)ethyl]- (8 CI)
Benzamide, 4-amino-N-[2-(diethylamino)ethyl]- (9 CI)
51-06-9
C13-H21-N3-O

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
117 Blood, plasma	Ingestion Injection	HPLC	9	a) 0.22-3.94 ug/ml b) 2.14-7.00 ug/ml	a) Not given b) Not given	a) Unchanged drug b) Metabolite (N-acetylprocainamide) levels for patients on procainamide therapy. DRUGS; MEASUREMENT METHODS; METABOLITES; BLOOD PLASMA; DRUG THERAPY	Nation, R.L. Lee, M.G. Huang, S.-M. Chiou, W.L. 1979

Benzamide, 2-hydroxy-5-(1-hydroxy-2-((1-methyl-3-phenylpropyl)amino)ethyl)-
36894-69-6
C19-H24-N2-O3

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
118 Blood, plasma	Ingestion Injection		a) 10 b) 7 c) 10 d) 7	a) Not given b) Not given c) Not given d) Not given	a) 50 ng/ml b) 18 ng/ml c) 20 ng/ml d) 15 ng/ml	a) Dose 160 mg, patients with liver disease b) Dose 143 mg, controls c) Dose 38 mg, patients with liver disease d) Dose 41 mg, controls Levels 3 hr after dosing Heart rates and systolic and diastolic blood pressure decreased and were significantly lower in patients with liver disease than in controls. A significant negative correlation was found between serum albumin concentration and systematic bioavailability for patient with liver disease. 156-187 min DRUGS; BLOOD PLASMA; LIVER; DISEASES; UNITED KINGDOM	Homeida, M. Jackson, L. Roberts, C.J.C. 1978

Benzene, ethyl-
100-41-4
C8-H10
MW 106.16, MP -94.97 C, BP 136.25 C, VP 10 mm Hg at 25.9 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
119 Adipose		GC/MS GC	21 of 25	0.1-0.7 ug/g	Not given	Workers in a styrene polymerization plant. OCCUPATIONAL HAZARDS; INDUSTRIAL PLANTS; STYRENES; BENZENES; BENZALDEHYDE; TOLUENE; ADIPOSE TISSUE	Wolff, M.S. Daum, S.M. Lorimer, W.V. Selikoff, I.J. Aubrey, M.B. 1977
120 Adipose		GC	12	0.1-0.7 ppm	Not given	In subcutaneous fat of styrene polymerization workers. STYRENES; ADIPOSE TISSUE; INDUSTRIES; OCCUPATIONAL HAZARDS	Wolff, M.S. 1976

Benzene, hexachloro-
118-74-1
C6-Cl6
MW 284.80, MP 231 C, BP 323-326 C, VP 1 mm Hg at 114.4 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
121 Adipose		CC GC-EC	10	0.03-0.19 ppm	0.11 ppm	Values based on ug/g extractable fat. Autopsy material from Oslo City Hospital. No special selection made with regard to age, sex or occupation CHLORINATED HYDROCARBONS; LIVER; AUTOPSIES; NORWAY; CHLORINE; ADIPOSE TISSUE; POLYCHLORINATED BIPHENYLS; CHLOROBENZENES; DDE	Bjorseth, A. Lunde, G. Dybing, E. 1977
122 Adipose		GC-EC	a) 1095 b) 898 c) 779	a) Not given b) Not given	a) 0.02 ppm b) 0.04 ppm c) 0.05 ppm Geometric	a) FY 73 b) FY 74 c) FY 75 Frequency of occurrence in tissue 70.9-93.9% Data from general population, collected by Nat'l Human Monitoring Program for Pesticides. PESTICIDES; CHLOROBENZENES; CHLORINE ORGANIC COMPOUNDS; DDT; UNITED STATES	Kutz, F.W. Strassman, S.C. Sperling, J.F. 1978
123 Blood		GC	20	<1-310 ppb	90 ppb	Agricultural workers exposed to HCB contaminated DCPA. Adult male vegetable sprayers in the lower Rio Grande Valley. Contamination of herbicide DCPA CHLORINATED HYDROCARBONS; CHLOROBENZENES; AGRICULTURE; BLOOD	Burns, J.E. Miller, F.M. Gomes, E.D Albert, R.A. 1974

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Benzene, hexachloro-
118-74-1
C6-C16
MW 284.80, MP 231 C, BP 323-326 C, VP 1 mm Hg at 114.4 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
124 Blood, whole		GC-EC	35	a) 0.19-2.49 ppb b) 0.56-3.10 ppb c) 4.75-158.62 ppb	a) 1.04 ppb b) 1.54 ppb c) 29.61 ppb	a) Control b) Workers from polyvinyl chloride plant c) Workers from magnesium plant Average value for exposed workers is of same magnitude as general population in industrialized countries. Control group of employees in the mercantile division. One group of workers in plant producing polyvinyl chloride. Third group of workers in plant producing magnesium. BLOOD; CHLORINATED HYDROCARBONS; INDUSTRIAL PLANTS; INDUSTRIAL ATMOSPHERES; MAGNESIUM; VINYL COMPOUNDS; OCCUPATIONAL HAZARDS; NORWAY; CHLOROBENZENES; STYRENES	Lunde, G. Bjorseth, A. 1977
125 Liver		GC GC-EC	10	0.11-0.23 ppm	0.15 ppm	Values based on ug/g extractable fat. Autopsy material from Oslo City Hospital. No special selection made with regard to age, sex or occupation. CHLORINATED HYDROCARBONS; LIVER; AUTOPSIES; NORWAY; CHLORINE; HEXACHLOROBENZENE; CHLOROBENZENES; DDE; ADIPOSE TISSUE	Bjorseth, A. Lunde, G. Dybing, E. 1977

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Benzene, hexachloro-
118-74-1
C6-Cl6
MW 284.80, MP 231 C, BP 323-326 C, VP 1 mm Hg at 114.4 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
126 Milk		TLC GC	a) 59 b) 15 c) 97	a) 1.0-17 ug/kg b) 2.4-11 ug/kg c) 1.4-7.2 ug/kg	a) 4.0 ug/kg b) 6.3 ug/kg c) 3.3 ug/kg	a) Nov 1971-Dec 1972 b) June-Nov 1974 c) Mar 1976-Mar 1977 Each case represents a pooled sample from 10-20 mothers. Samples from women in Stockholm, Sweden PESTICIDES; SWEDEN; MILK; BIPHENYL COMPOUNDS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES; POLYCHLORINATED BIPHENYLS; DIELDRIN; DDT; DDE; HEXACHLOROCYCLOHEXANE	Westoo, G. Noren, K. 1978
127 Milk		GC	2	a) 9.0-10-7 ppb b) 3.7-4.1 ppb	a) Not given b) Not given	a) Sample 1 b) Sample 2 Repeated determinations PESTICIDES; CHLOROBENZENES; DDE; MILK	Brevik, E.M. 1978
128 Milk		GC	2	0.09-0.23 ug	0.16 ug	Amounts varied for different feedings. Values are daily total. Samples from donors at various times of breast feeding and at different times of the day. MILK; PESTICIDES; PESTICIDE RESIDUES; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; HEXACHLOROBENZENE; DDT; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE; OXYCHLORDANE; NONACHLOR; DDE; DIELDRIN	Mes, J. Davies, D.J. 1978

Benzene, p-dichloro- (8 CI)
Benzene, 1,4-dichloro- (9 CI)
106-46-7
C6-H4-C12
MW 147.01, MP 53 C, BP 174.12 C, VP 10 mm Hg at 54.8 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
129 Adipose	Inhalation	GC-EC		Not given	1.88 + or - 2.13 ppm	Normal Subjects Subcutaneous fat collected at a university hospital and medical examiner's office in Tokyo. CHLOROBENZENES; ADIPOSE TISSUE; PIGEONS; MOTHS; DEODORANTS; PESTICIDES; CHLORINATED HYDROCARBONS; JAPAN	Morita, M. Ohi, G. 1978

Benzene, pentachloro-
608-93-5
C6-H-Cl5
MW 250.34, MP 86 C, BP 277 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
130 Blood, whole		GC	35	a) 0 b) 0 c) 0-0.26 ppb	a) 0 b) 0 c) 0.15 ppb	a) Control b) Workers from polyvinyl chloride plant c) Workers from magnesium plant Control group of employees in the mercantile division. One group of workers in plant producing polyvinyl chloride. Third group of workers in plant producing magnesium. BLOOD; CHLORINATED HYDROCARBONS; INDUSTRIAL PLANTS; INDUSTRIAL ATMOSPHERES; MAGNESIUM; VINYL COMPOUNDS; OCCUPATIONAL HAZARDS; NORWAY; CHLOROBENZENES; STYRENES	Lande, G. Bjorseth, A. 1977

Benzeneacetic acid, alpha,3-dichloro-4-cyclohexyl-
36616-52-1
C14-H16-C12-02
MW 286

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
131 Blood, plasma	Ingestion	GC-EC	6	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 32 ug/ml b) 30 ug/ml c) 12 ug/ml d) 7 ug/ml e) 6 ug/ml	a) 0.5 hr b) 1.0 hr c) 2.0 hr d) 3.0 hr e) 4.0 hr 200-mg dose. Healthy male volunteers (21-50 years, 77-86 kg). DRUGS; ANTI-INFLAMMATORY ANALGESICS; BLOOD PLASMA; MEASUREMENT METHODS	DeLong, A.F. Polk, A. Martin, G. Smyth, R.D. Reavey-Cantwell, N.H. 1978
132 Blood, plasma	Ingestion	Radiometry	6	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 32 ug/ml b) 30 ug/ml c) 16 ug/ml d) 11 ug/ml e) 7 ug/ml	a) 0.5 hr b) 1.0 hr c) 2.0 hr d) 3.0 hr e) 4.0 hr 200-mg dose. Healthy male volunteers (21-50 years, 77-86 kg). DRUGS; ANTI-INFLAMMATORY ANALGESICS; BLOOD PLASMA; MEASUREMENT METHODS	DeLong, A.F. Polk, A. Martin, G. Smyth, R.D. Reavey-Cantwell, N.H. 1978

Benzeneethanol, alpha-(2-amino-1-methylethyl)-alpha-phenyl-, propanoate (ester), [S-(R*,S*)]-
82576-07-8
C20-H25-N-O2

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
133 Blood			5	Not detected-8 ug/ml	Not given	Samples of blood, liver and urine from fatal intoxications were collected at autopsy. AUTOPSIES; BLOOD; URINE; LIVER; DRUGS	Norheim, G. 1976
134 Liver		GC	6	Not detected-34ug/ml	Not given	Samples of blood, liver and urine from fatal intoxications were collected at autopsy. AUTOPSIES; BLOOD; URINE; LIVER; DRUGS	Norheim, G. 1976
135 Urine		GC	3	18-136 ug/ml	61.7 ug/ml	Samples of blood, liver and urine from fatal intoxications were collected at autopsy. AUTOPSIES; BLOOD; URINE; LIVER; DRUGS	Norheim, G. 1976

Benzenesulfonamide, 2-chloro-5-(1-hydroxy-3-oxo-1-isoindolinyl)- (8 CI)
Benzenesulfonamide, 2-chloro-5-(2,3-dihydro-1-hydroxy-3-oxo-1H-isoindol-1-yl)- (9 CI)
77-36-1
C14-H11-Cl-N2-O4-S

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
136 Amniotic fluid	Ingestion	GC-EC	7	0.28-0.69 ug/ml	0.44 ug/ml	Women with toxemia of pregnancy. Values at delivery. DRUGS; CHLORINE ORGANIC COMPOUNDS; DIURETICS; PLACENTA; PREGNANCY; UMBILICAL CORD; MILK; BLOOD; AMNIOTIC FLUID	Mulley, B.A. Parr, G.D. Pau, W.K. Rye, R.M. Mould, J.J. Siddle, N.C. 1978
137 Blood		GC-EC	a) 9 b) 8 c) 9	a) 3.50-10.10 ug/ml b) 0.43-1.60 ug/ml c) 4.10-9.75 ug/ml	a) 7.83 ug/ml b) 1.02 ug/ml c) 6.35 ug/ml	a) Maternal - at delivery b) Umbilical cord - at delivery c) Maternal - 3 days after delivery Women suffering from toxemia of pregnancy. DRUGS; CHLORINE ORGANIC COMPOUNDS; DIURETICS; PLACENTA; PREGNANCY; UMBILICAL CORD; MILK; BLOOD; AMNIOTIC FLUID	Mulley, B.A. Parr, G.D. Pau, W.K. Rye, R.M. Mould, J.J. Siddle, N.C. 1978
138 Milk	Ingestion	GC-EC	7	0.09-0.86 ug/ml	0.37 ug/ml	Women with toxemia of pregnancy. Values 3 days after delivery. DRUGS; CHLORINE ORGANIC COMPOUNDS; DIURETICS; PLACENTA; PREGNANCY; UMBILICAL CORD; MILK; BLOOD; AMNIOTIC FLUID	Mulley, B.A. Parr, G.D. Pau, W.K. Rye, R.M. Mould, J.J. Siddle, N.C. 1978

Benzoic acid, p-(dipropylsulfamoyl)- (8 CI)
Benzoic acid, 4-([dipropylamino]sulfonyl)- (9 CI)
57-66-9
C13-H19-N-04-S

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
139 Cerebrosp inal fluid			a) 9 b) 10 c) 5	a) 9-26 ug/ml b) 7-52 ug/ml c) 4-18 ug/ml	a) 18.7 ug/ml b) 22.4 ug/ml c) 11.4 ug/ml	a) Children receiving neuroleptic medication b) Children after discontinuation of medication c) Drug-free group Eleven children, age 6-14 yr, on various neuroleptic drugs. Drug-free group, 3-7 yr, as controls. Some children with dyskinetic withdrawal emergent symptoms. DRUGS; CHILDREN; METABOLITES; DRUG THERAPY; SPINAL FLUID; NERVOUS SYSTEM DISEASES; NEW YORK	Wimmberg, B.G. Hurwic, M.J. Sverd, J. Klatch, A. 1976

Benzophenone, 4,4'-dichloro- (8 CI)
Methanone, bis(4-chlorophenyl)- (9 CI)
90-98-2
C13-H8-Cl2-O
MW 251.13, MP 147-148 C, BP 353 C at 757 mm Hg

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
140 Adipose	Inhalation	GC	a) 14 b) 10 c) 20 d) 35	a) Not given b) Not given c) Not given d) Not given	a) 6.3 ppm b) 2.8 ppm c) 8.4 ppm d) 5.2 ppm	a) Females, black b) Females, white c) Males, black d) Males, white Values from 68 controls ranged from 0.20-0.25 ppm. Samples from autopsies obtained during 1973-1974 at Medical College of Pennsylvania, Philadelphia and from patients undergoing abdominal surgery at Veterans Hospital, Durham, NC. Of the 143 cases, 68 were Blacks and the remainder were Caucasians. Cigarette smoke ADIPOSE TISSUE; INSECTICIDES; TOBACCOS; SMOKING; AUTOPSIES; CHLORINATED HYDROCARBONS; PESTICIDES; DDT; DIELDRIN; PENNSYLVANIA; NORTH CAROLINA; RACIAL STUDIES	Domanski, J.J. Nelson, L.A. Guthrie, F.E. Domanski, E.E. Mark, E. Postlethwait, E.W. 1977

Benzyl alcohol, alpha-[(tert-butylamino)methyl]-3,5-dihydroxy- (8 CI)
1,3-Benzenediol, 5-[2-[(1,1-dimethylethyl)amino]-1-hydroxyethyl]- (9 CI)
23031-25-6
C12-H19-N-03

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
141 Blood, serum	Ingestion	GC/MS	1	13.8-13.8 ng/ml	13.6 ng/ml	Dosage unknown, death followed a severe asthma attack. DRUGS; LIVER; KIDNEYS; LUNGS; MUSCLES; HEART; BLOOD SERUM; MEASUREMENT METHODS	Leferink, J.G. Wagemaker-Engels, I. Maes, R.A.A. Van der Straeten, M. 1978
142 Heart	Ingestion	GC/MS	a) 1 b) 1	a) 3.2-4.0 ng/g b) 34.2-37.0 ng/g	a) 3.6 ng/g b) 35.7 ng/g	a) Dosage 2.5 or 5 mg twice daily, death accidental b) Dosage unknown, death followed a severe attack of asthma. DRUGS; LIVER; KIDNEYS; LUNGS; MUSCLES; HEART; BLOOD SERUM; MEASUREMENT METHODS	Leferink, J.G. Wagemaker-Engels, I. Maes, R.A.A. Van der Straeten, M. 1978
143 Kidney	Ingestion	GC/MS	1	51.8-57.4 ng/g	54.8 ng/g	Dosage unknown, death followed a severe attack of asthma. DRUGS; LIVER; KIDNEYS; LUNGS; MUSCLES; HEART; BLOOD SERUM; MEASUREMENT METHODS	Leferink, J.G. Wagemaker-Engels, I. Maes, R.A.A. Van der Straeten, M. 1978
144 Liver	Ingestion	GC/MS	a) 1 b) 1	a) 7.9-9.0 ng/g b) 52.6-56.2 ng/g	a) 8.5 ng/g b) 54.5 ng/g	a) Dosage 2.5 or 5 mg twice daily, accidental death b) Dosage unknown, death followed a severe attack of asthma. DRUGS; LIVER; KIDNEYS; LUNGS; MUSCLES; HEART; BLOOD SERUM; MEASUREMENT METHODS	Leferink, J.G. Wagemaker-Engels, I. Maes, R.A.A. Van der Straeten, M. 1978
145 Lung	Ingestion	GC/MS	a) 1 b) 1	a) 7.0-7.1 ng/g b) 28.1-28.0 ng/g	a) 7.0 ng/g b) 28.0 ng/g	a) Dosage 2.5 or 5 mg twice daily, accidental death b) Dosage unknown, death followed a severe asthma attack DRUGS; LIVER; KIDNEYS; LUNGS; MUSCLES; HEART; BLOOD SERUM; MEASUREMENT METHODS	Leferink, J.G. Wagemaker-Engels, I. Maes, R.A.A. Van der Straeten, M. 1978

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Benzyl alcohol, alpha-[(tert-butylamino)methyl]-3,5-dihydroxy- (8 CI)
1,3-Benzenediol, 5-[2-[(1,1-dimethylethyl)amino]-1-hydroxyethyl]- (9 CI)
23031-25-6
C12-H19-N-O3

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
146 Muscle	Ingestion	GC/MS	1	61.6-63.6 ng/g	62.6 ng/g	Dosage unknown, death followed a severe asthma attack. DRUGS; LIVER; KIDNEYS; LUNGS; MUSCLES; HEART; BLOOD SERUM; MEASUREMENT METHODS	Leferink, J.G. Wagemaker-Engels, I. Maes, R.A.A. Van der Straeten, M. 1978

Beryllium
7440-41-7
Be, [illegible]

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
147 Lung		ES	26	0.2-5.6 ug/g dry wt	0.6 ug/g dry wt	Miners with 21-47 years occupational experience Tissues from deceased West Virginia bituminous coal miners. METALS; MINERALS; BERYLLIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; NICKEL; TITANIUM; VANADIUM; ZINC; LUNGS; COAL; SILICA MATERIALS; WEST VIRGINIA; AUTOPSIES; MINING	Crable, J.V. Keenan, R.G. Kinser, R.E. Swallwood, A.W. Mauer, P.A. 1968
148 Lung		AAS	12	0.01-0.03 ug/g wet wt	Not given	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Beryllium
7440-41-7
Be,

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
149 Placenta			58	a) Not given b) 0 c) Not given d) Not given	a) 0.013 ug/g wet wt b) 0 c) 0.008 ug/g wet wt d) 0.036 ug/g wet wt	a) All cities b) Augusta, GA c) Birmingham, AL d) Charlotte, NC Metal levels correlated with enzyme activities. Samples from 58 normal placentas collected immediately at delivery in hospitals in Charlotte, NC, Birmingham, AL and Augusta, GA. PLACENTA; MANGANESE; BARIUM; CADMIUM; SELENIUM; MERCURY; TIN; VANADIUM; BERYLLIUM; SILVER; COBALT; NICKEL; CHROMIUM; COPPER; ZINC; LEAD; IRON; PLATINUM; BORON; ARSENIC; LITHIUM; METALS; TRACE ELEMENTS; ENZYMES; GEORGIA; ALABAMA; NORTH CAROLINA	Karp, W.B. Robertson, A.F. 1977

Biphenyl, chloro (8 CI)
1,1'-Biphenyl, chloro deriva (9 CI)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
150 Adipose		CC GC-EC	10	0.37-4.84 ppm	1.78 ppm	Values based on ug/g extractable fat. Autopsy material from Oslo City Hospital. No special selection made with regard to age, sex or occupation CHLORINATED HYDROCARBONS; LIVER; AUTOPSIES; NORWAY; CHLORINE ORGANIC COMPOUNDS; ADIPOSE TISSUE; POLYCHLORINATED BIPHENYLS; CHLOROBENZENES; DDE	Bjorseth, A. Lunde, G. Dybing, E. 1977
151 Adipose	Placental	GC-EC	1 (2 specimens)	683-806 ppb (wet wt)	744.5 ppb (wet wt)	Stillborn baby Abdominal wall and gluteal region BLOOD; KIDNEYS; SPLEEN; LIVER; BONE MARROW; BILE; BRAIN; ADIPOSE TISSUE; PLACENTA; BIPHENYL COMPOUNDS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; PESTICIDES; POLYCHLORINATED BIPHENYLS; JAPAN	Umeda, G. Nakajima, H. Yatsuki, K. 1978
152 Adipose		GC	30	0.38-2.50 ppm	1.04 ppm	Fat basis Fat samples from the Tokyo metropolitan area. ADIPOSE TISSUE; BIPHENYL COMPOUNDS; CHLORINE ORGANIC COMPOUNDS; FOODS; BLOOD; FISHES; MEAT; DIETS; POLYCHLORINATED TERPHENYLS; BIOACCUMULATION; JAPAN; WATER POLLUTION	Doguchi, M. 1977

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Biphenyl, chloro (8 CI)
1,1'-Biphenyl, chloro derivs (9 CI)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
153 Adipose		CC GC-EC	a) 5 b) 9	a) 0.38-1.02 ppm b) 0.28-1.44 ppm	a) 0.7658 ppm b) 0.9720 ppm	a) Control-adjacent to breast tissue b) Adjacent to malignant breast tissue Values represent concentrations in extracted lipids. Malignant tissue, adjacent to apparently normal glandular and adipose tissue of nine women with adenocarcinoma of the breast, obtained from the A.C. Camargo Hospital in Sao Paulo. Mammary gland and adjacent adipose tissue from 5 healthy women who died accidentally used for controls. BREAST; MAMMARY GLANDS; NEOPLASMS; ADIPOSE TISSUE; CARCINOMAS; PESTICIDES; LIPIDS; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; BIPHENYL COMPOUNDS; DIELDRIN; POLYCHLORINATED BIPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE; DDD; HEPTACHLOR EPOXIDE	Wassermann, M. Nogueira, D.P. Tomatis, L. Mirra, A.P. Shibata, H. Arie, G. Cucos, S. Wassermann, D. 1976
158 Adipose		CC GC	30	0.38-2.50 ppm	1.04 ppm	30 samples of adipose tisue obtained from 18 males and 12 females in Tokyo in 1974. Blood collected from 10 subjects in 1975. BLOOD; ADIPOSE TISSUE; PESTICIDES; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; JAPAN; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED TERPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE	Fukano, S. Doguchi, M. 1977

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Biphenyl, chloro (8 Cl)
1,1'-Biphenyl, chloro deriva (9 Cl)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
155 Adipose		CC GC-EC	8	Not given	1.2049 ppm	In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DIT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977
156 Adipose		GC/MS CC TLC		a) Nondetected b) Less than 1 ppm c) 1-2 ppm d) Greater than 2 ppm	a) Not given b) Not given c) Not given b) Not given	a) 24.5% in 1973, 9.1% in 1974 b) 40.2% in 1973, 50.6% in 1974 c) 29.6% in 1973, 35.4% in 1974 d) 5.5% in 1973, 4.9% in 1974 Total of 140 extracts Individual PCB's described qualitatively but only semi-quantitatively. Samples from postmortem and surgical specimens. No samples from pesticide poisonings. POLYCHLORINATED BIPHENYLS; ADIPOSE TISSUE; POPULATION EXPOSURE; BIOACCUMULATION; BIPHENYL COMPOUNDS; CHLORINATED HYDROCARBONS	Kutz, F.W. Strassman, S.C. 1976

(NEXT PAGE)

Biphenyl, chloro (8 Cl)
1,1'-Biphenyl, chloro deriv (9 Cl)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
157 Amniotic fluid		CC GC-EC	4	Not given	128.7529 ppm	In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DDT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977
158 Bile	Placental	GC-EC	1	Not applicable	13 ppb (wet wt)	Stillborn baby BLOOD; KIDNEYS; SPLEEN; LIVER; BONE MARROW; BILE; BRAIN; ADIPOSE TISSUE; PLACENTA; BIPHENYL COMPOUNDS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; PESTICIDES; POLYCHLORINATED BIPHENYLS; JAPAN	Umeda, G. Nakajima, H. Yatsuki, K. 1978
159 Blood		CC GC-EC	a) 15 b) 9	a) None detected b) 10-100 ppb	a) None detected b) 48 ppb	a) Controls b) Patients Venous blood from 9 patients hospitalized with severe wasting disease (8 carcinomas). Control group of 15 healthy nonpatients. All from Missouri or surrounding states. PESTICIDES; BLOOD; DISEASES; CARCINOMAS; CHLORINE ORGANIC COMPOUNDS; BIPHENYL COMPOUNDS; CHLORINATED HYDROCARBONS; BIOACCUMULATION; POLYCHLORINATED BIPHENYLS; MISSOURI; DDE	Hesselberg, R.J. Scherr, D.D. 1974

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Biphenyl, chloro (8 Cl)
1,1'-Biphenyl, chloro deriv (9 Cl)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
160 Blood	Ingestion	GC-EC	a) 19 b) 19 c) 5 d) 1	a) Not given b) Not given c) Not given d) Not given	a) 5 ppb (wet wt) b) 12 ppb (wet wt) c) 4 ppb (wet wt) d) 8 ppb (wet wt)	a) Controls b) Cases of Yusho disease c) Control-umbilical cord d) Stillborn baby Blood samples from patients and controls. Tissue samples obtained after necropsy or from surgically removed materials. Placentas supplied after spontaneous delivery or stillbirth. Fatigue, disturbance of recent memory, changes in behavior Functional disorders in CNS. Increase in serum lipoperoxide. BLOOD; KIDNEYS; SPLEEN; LIVER; BONE MARROW; BILE; BRAIN; ADIPOSE TISSUE; PLACENTA; BIPHENYL COMPOUNDS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; PESTICIDES; POLYCHLORINATED BIPHENYLS; JAPAN	Umeda, G. Nakajima, M. Yatsuki, K. 1978
161 Blood		GC GC	10	1.8-3.8 ppb	2.6 ppb	In all but one subject, no definitive changes in PCB levels in blood were recognizable between 1973 and 1975. 10 samples of adipose tisue obtained from 18 males and 12 females in Tokyo in 1974. Blood collected from 10 subjects in 1975. BLOOD; ADIPOSE TISSUE; PESTICIDES; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; JAPAN; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED TERPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE	Fukano, S. Doguchi, M. 1977

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Biphenyl, chloro (8 CI)
1,1'-Biphenyl, chloro derivs (9 CI)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
162 Blood		CC GC-EC	a) 24 b) 23	a) Not given b) Not given	a) 2.7990 ppm b) 7.1097 ppm	a) Maternal b) Fetal In extracted lipids Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DDT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977
163 Blood, whole		CC GC-EC	27	1.9-5.8 ppb	3.2 ppb	PCT residue levels higher than of PCB's in spite of lesser industrial output of the former. Samples from 19 male and 8 female volunteers, 21 to 57 yr, Tokyo, Japan BLOOD; JAPAN; PESTICIDES	Doguchi, M. Fukano, S. 1975
164 Blood, whole		GC	27	1.9-5.8 ppb	3.2 ppb	Fat samples from the Tokyo metropolitan area. ADIPOSE TISSUE; BIPHENYL COMPOUNDS; CHLORINE ORGANIC COMPOUNDS; FOODS; BLOOD; FISHES; MEAT; DIETS; POLYCHLORINATED TERPHENYLS; BIOACCUMULATION; JAPAN; WATER POLLUTION	Doguchi, M. 1977

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Biphenyl, chloro (8 CI)
1,1'-Biphenyl, chloro derivs (9 CI)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
165 Bone marrow	Placental	GC-EC	1	Not applicable	3 ppb (wet wt)	Stillborn baby BLOOD; KIDNEYS; SPLEEN; LIVER; BONE MARROW; BILE; BRAIN; ADIPOSE TISSUE; PLACENTA; BIPHENYL COMPOUNDS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; PESTICIDES; POLYCHLORINATED BIPHENYLS; JAPAN	Umeda, G. Nakajima, H. Yatsuki, K. 1978
166 Brain	Placental	GC-EC	1 (3 specimens)	9-10 ppb (wet wt)	9.7 ppb (wet wt)	Stillborn baby Temporal and occipital lobes, frontal lobe and limbic system BLOOD; KIDNEYS; SPLEEN; LIVER; BONE MARROW; BILE; BRAIN; ADIPOSE TISSUE; PLACENTA; BIPHENYL COMPOUNDS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; PESTICIDES; POLYCHLORINATED BIPHENYLS; JAPAN	Umeda, G. Nakajima, H. Yatsuki, K. 1978
167 Hair		GC	4	0.38-0.76 ppm	0.61 ppm	On 2 occasions, 4 months apart, 5 samples of hair representing a composite of 5 or more individuals were collected over a one-week period from a barber's shop. HAIR; CHLORINATED HYDROCARBONS; DIELDRIN; BIPHENYL COMPOUNDS; LIPIDS; PESTICIDES; INSECTICIDES; POLYCHLORINATED BIPHENYLS; DIELDRIN; DDT; NORTH CAROLINA	Matthews, H.B. Domanski, J.J. Guthrie, F.E. 1976

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Biphenyl, chloro (8 Cl)
1,1'-Biphenyl, chloro deriws (9 Cl)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
168 Kidney	Placental	GC-EC	1	23-30 ppb (wet wt)	26.5 ppb (wet wt)	Stillborn baby BLOOD; KIDNEYS; SPLEEN; LIVER; BONE MARROW; BILE; BRAIN; ADIPOSE TISSUE; PLACENTA; BIPHENYL COMPOUNDS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; PESTICIDES; POLYCHLORINATED BIPHENYLS; JAPAN	Umeda, G. Nakajima, H. Yatsuki, K. 1978
169 Liver		CC GC-EC	10	1.11-2.29 ppm	1.87 ppm	Values based on ug/g extractable fat. Autopsy material from Oslo City Hospital. No special selection made with regard to age, sex or occupation CHLORINATED HYDROCARBONS; LIVER; AUTOPSIES; NORWAY; CHLORINE ORGANIC COMPOUNDS; POLYCHLORINATED BIPHENYLS; CHLOROBENZENES; DDE; ADIPOSE TISSUE	Bjorseth, A. Lunde, G. Dybing, E. 1977
170 Liver	Placental	GC-EC	1	Not applicable	89 ppb (wet wt)	Stillborn baby BLOOD; KIDNEYS; SPLEEN; LIVER; BONE MARROW; BILE; BRAIN; ADIPOSE TISSUE; PLACENTA; BIPHENYL COMPOUNDS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; PESTICIDES; POLYCHLORINATED BIPHENYLS; JAPAN	Umeda, G. Nakajima, H. Yatsuki, K. 1978

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Biphenyl, chloro (8 CI)
1,1'-Biphenyl, chloro deriva (9 CI)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
171 Mammary gland		CC GC-EC	a) 5 b) 9 c) 9	a) 2.38-3.92 ppm b) 4.34-14.25 ppm c) 1.33-4.24 ppm	a) 2.9849 ppm b) 9.1430 ppm c) 2.7680 ppm	a) Control b) Malignant c) Breast tissue adjacent to malignancy Values represent the concentrations in extracted lipids. Malignant tissue, adjacent to apparently normal glandular and adipose tissue of nine women with adenocarcinoma of the breast, obtained from the A.C. Camargo Hospital in Sao Paulo. Mammary gland and adjacent adipose tissue from 5 healthy women who died accidentally used for controls. BREAST; MAMMARY GLANDS; NEOPLASMS; ADIPOSE TISSUE; CARCINOMAS; PESTICIDES; LIPIDS; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; BIPHENYL COMPOUNDS; DIELDRIN; POLYCHLORINATED BIPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE; DDD; HEPTACHLOR EPOXIDE	Wassermann, M. Nogueira, D.P. Tomatis, L. Mirra, A.P. Shibata, M. Atie, G. Cucos, S. Wassermann, D. 1976
172 Milk	Ingestion		1,119	Not given	0.093 ppm	70 cases had values greater than 0.10 ppm. Samples from nursing mothers in hospitals in 45 states Dietary CHLORINE ORGANIC COMPOUNDS; INFANTS; FOOD CONTAMINATION; MILK; MAMMARY GLANDS	Anon 1978

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Biphenyl, chloro (8 CI)
1,1'-Biphenyl, chloro deriv (9 CI)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
173 Milk		TLC GC	a) 14 b) 59 c) 15 d) 97	a) 10-20 ug/kg b) 20-40 ug/kg c) 10-30 ug/kg d) 20-40 ug/kg	a) 14 ug/kg b) 26 ug/kg c) 24 ug/kg d) 30 ug/kg	a) Apr-July 1967 b) Nov 1971-Dec 1972 c) June-Nov 1974 d) Mar 1976-Mar 1977 Each case represents a pooled sample from 10-20 mothers. Samples from women in Stockholm, Sweden. PESTICIDES; SWEDEN; MILK; BIPHENYL COMPOUNDS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES; POLYCHLORINATED BIPHENYLS; DIELDRIN; DDT; DDE; HEXACHLOROCYCLOHEXANE	Westoo, G. Noren, K. 1978
174 Milk		GC	2	1.17-1.77 ug	1.47 ug	Amounts varied for different feedings. Values are daily total. Samples from donors at various times of breast feeding and at different times of the day. MILK; PESTICIDES; PESTICIDE RESIDUES; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; HEXACHLOROBENZENE; DDT; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE; OXYCHLORDANE; NONACHLOR; DDE; DIELDRIN	Mes, J. Davies, D.J. 1978
175 Milk, whole		GC-EC	57	Trace	Trace	Samples from 17 Negroes and 40 Caucasians in hospitals in Arkansas and Mississippi. PESTICIDES; PESTICIDE RESIDUES; MILK; BIOACCUMULATION; POPULATION EXPOSURE; MAMMARY GLANDS; LACTATION; PLACENTA; ARKANSAS; MISSISSIPPI	Strassman, S.C. Kutz, F.W. 1977

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Biphenyl, chloro (8 Cl)
1,1'-Biphenyl, chloro derivs (9 Cl)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
176 Placenta		GC-EC	a) 5 b) 5 c) 5	a) Not given b) Not given c) Not given	a) 11 ppb (wet wt) b) 10 ppb (wet wt) c) 3 ppb (wet wt)	a) Control-Placental villi b) Control-Chorion and amnion c) Control-Umbilical cord Blood samples from patients and controls. Tissue samples obtained after necropsy or from surgically removed materials. Placentas supplied after spontaneous delivery or stillbirth. Fatigue, disturbance of recent memory, changes in behavior Functional disorders in CNS. Increase in serum lipoperoxide. BLOOD; KIDNEYS; SPLEEN; LIVER; BONE MARROW; BILE; BRAIN; ADIPOSE TISSUE; PLACENTA; BIPHENYL COMPOUNDS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; PESTICIDES; POLYCHLORINATED BIPHENYLS; JAPAN	Umeda, G. Nakajima, H. Yatsuki, K. 1978
177 Placenta		CC GC-EC	19	Not given	5.0267 ppm	In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE; DDD	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977

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Biphenyl, chloro (8 CI)
1,1'-Biphenyl, chloro derivs (9 CI)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
178 Spleen	Placental	GC-EC	1	Not applicable	15 ppb (wet wt)	Stillborn baby BLOOD; KIDNEYS; SPLEEN; LIVER; BONE MARROW; BILE; BRAIN; ADIPOSE TISSUE; PLACENTA; BIPHENYL COMPOUNDS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; PESTICIDES; POLYCHLORINATED BIPHENYLS; JAPAN	Umeda, G. Nakajima, H. Yatsuki, K. 1978
179 Uterus		CC GC-EC	7	Not given	14.0968 ppm	In extracted lipids of uterine muscle. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DIT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977

Bismuth
7440-69-9
Bi, [illegible]

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
780 Kidney			5	0.01-0.09 ug/g wet wt	0.038 ug/g wet wt	METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
781 Liver		AAS	7	0.012-0.056 ug/g wet wt	0.030 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

Boron
7440-42-8
B
AtW 10.81, MP 2200 C (approx), BP 2550 C, VP 156X10(E-5) atm at 2140 C, 1 mm Hg at 2660 C, 10 mm Hg at 3030 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
182 Placenta			58	0	0	No F found. Samples from 58 normal placentas collected immediately at delivery in hospitals in Charlotte, NC, Birmingham, AL and Augusta, GA. PLACENTA; MANGANESE; BARIUM; CADMIUM; SELENIUM; MERCURY; TIN; VANADIUM; BERYLLIUM; SILVER; COBALT; NICKEL; CHROMIUM; COPPER; ZINC; LEAD; IRON; PLATINUM; BORON; ARSENIC; LITHIUM; METALS; TRACE ELEMENTS; ENZYMES; GEORGIA; ALABAMA; NORTH CAROLINA	Karp, W.B. Robertson, A.F. 1977

Bromine
7726-95-6
Br2
AtW 79.904, MP -7.25 C, BP 59.47 C, VP 1 mm Hg at -60 C, 10 mm Hg at -30 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
183 Blood, whole		NA	33	4-23 ppm	8 ppm (geometric)	Workers exposed to methyl bromide. Greenhouse workers (age 21-63 yr) engaged in soil disinfection in the Netherlands. Slight EEG changes in 60% of subjects. Small increases in sreum transaminases related to bromine serum levels. No relationship with subjective symptoms, general neurological condition or results of serum protein electrophoresis. HALOGENS; BROMINE; BROMINE ORGANIC COMPOUNDS; OCCUPATIONAL HAZARDS; BLOOD; NETHERLANDS	Verberk, M.M. Booyakkers-Beemster, J. de Vlieger, M. van Vliet, A.G.M. 1979
184 Skin		NA	a) 5 b) 4 c) 10 (Samples)	a) 16.0-107.2 ug/g dry wt b) 12.1-44.4 ug/g dry wt c) 8.7-34.4 ug/g dry wt	a) 45.9 ug/g dry wt b) 23.6 ug/g dry wt c) 16.8 ug/g dry wt	a) Normal b) Psoriatic uninvolved c) Psoriatic involved Significantly lower Br content in untreated psoriatic epidermis as compared with normal and uninvolved psoriatic epidermis (F = 7.230, 0.05 greater than p greater than 0.01). Specimens from trunk region of 14 males in Sweden. 9 were suffering from psoriasis (ages 0-59 yr, mean 46), and 5 had no evidence of skin disorder (ages 19-57 yr, mean 33). BROMINE; CADMIUM; CHROMIUM; MOLYBDENUM; RUBIDIUM; SELENIUM; ARSENIC; GOLD; CESIUM; MERCURY; LANTHANUM; ANTIMONY; SCANDIUM; SAMARIUM; TUNGSTEN; EPIDERMIS; SKIN DISEASES; METALS; TRACE ELEMENTS	Molin, L. Wester, P.O. 1974

Cadmium
7440-43-9
Cd, AtW 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
185 Adipose		AAS	3	0.035-0.13 ug/g wet wt	Not given	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
186 Adrenal gland		APDC-MIBK AAS	1	Not applicable	7.4 ppm wet wt	74-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES	Nogawa, K. Ishizaki, A. Fukushima, M. 1975

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Cadmium
7440-43-9
Cd, AtW 112.40, MP 321° C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
187 Adrenal gland		AAS	26	0.40-4.1 ug/g wet wt	1.5 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
188 Aorta		APDC-MIBK AAS	1	Not Applicable	7.0 ppm wet wt	74-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES	Nogawa, K. Ishizaki, A. Fukushima, M. 1975

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Cadmium
7440-43-9
Cd, mp 320.9°, bp 767 C, Vp 1 mm Hg at 394 C, 10 mm Hg at 486 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
189 Aorta	Ingestion	AAS	a) 226 b) 119	a) Not given b) Not given	a) 0.835 ug/g b) 0.557 ug/g	a) Males b) Females Biological half-times (BHT) obtained by observation of accumulation from 0-90 years and calculation by a mathematical model. Autopsy samples from Tokyo accident victims with no known occupational exposure. 13 yr CADMIUM; MERCURY; LEAD; METALS; AUTOPSIES; BIOACCUMULATION; AGE; SEX; FOODS; JAPAN	Sugita, M. 1978
190 Bile		AAS	23	a) Not given b) Not given c) Not given	a) 1.4 ng/g wet wt b) 3.2 ng/g wet wt c) 4.1 ng/g wet wt	a) Subgroup 1 b) Subgroup 2 c) Subgroup 3 Subgroups based on liver Cd concentration. Data on bile are inconclusive due to insufficient sensitivity of neutron activation analysis as a method of cross-checking. (Subgroups based on Cd concentration). Samples from routine gallbladder operations of 23 volunteers as follows: 19 women, 31-66 yr [mean of 47 yr and 4 men, 26-66 yr [mean of 32 yr]. CADMIUM; METALS; BLOOD; LIVER; BILE	Elinder, C-G. Kjellstrom, T. Lind, B. Molander, M.-L. Silander, T. 1978

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Cadmium
7440-43-9
Cd, AtW 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
191 Bile	Ingestion	AAS	a) 92 b) 23	a) Not given b) Not given	a) 0.283 ug/g b) 0.316 ug/g	a) Males b) Females Biological half-times (BHT) obtained by observation of accumulation from 0-96 years and calculation by a mathematical model. Autopsy samples from Tokyo accident victims with no known occupational exposure. 15 yr CADMIUM; MERCURY; LEAD; METALS; AUTOPSIES; BIOACCUMULATION; AGE; SEX; FOODS; JAPAN	Sugita, M. 1978
192 Blood		AAS	1958	1-30 ug/dl	5.0 ug/dl	Levels not significantly related to race, area of residence, educational attainment or smoking habits. Author comment: no complete trace metal exposure data for stated areas of residence. Military recruits from Chicago and adjacent areas in Illinois and Indiana inducted between June 29 and July 10, 1969. BLOOD; CADMIUM; COPPER; LEAD; ZINC; METALS; AGE; SMOKING; TOBACCOS; DIETS; ILLINOIS; INDIANA; RACIAL STUDIES	Creason, J.P. Hammer, D.I. Colucci, A.V. Priester, L. Davis, J. 1976

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Cadmium
7440-43-9
Cd, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
193 Blood	Inhalation		a) 333 b) 332 c) 109 d) 109	a) 0.01-0.97 ug/100 ml b) 0.01-1.03 ug/100 ml c) 0.02-0.61 ug/100 ml d) 0.01-0.88 ug/100 ml	a) 0.12 ug/100 ml b) 0.10 ug/100 ml c) 0.20 ug/100 ml d) 0.07 ug/100 ml	a) Nonsmokers, mothers b) Newborn of nonsmokers c) Smokers, mothers d) Newborn of smokers Samples from 333 nonsmoking and 109 smoking European women and their newborn. The women lived in or near Brussels, Tournai, Leuven (Louvain), and Antwerp, Belgium representing rural, urban, and industrial areas. Cigarette smoke BLOOD; INFANTS; SMOKING; LEAD; MERCURY; CADMIUM; METALS; CARBON INORGANIC COMPOUNDS; COMPARATIVE EVALUATIONS; RURAL AREAS; URBAN AREAS; INDUSTRIAL AREAS; BELGIUM; PLACENTA; UMBILICAL CORD	Buchet, J.P. Roels, H. Hubermont, G. Lauwerys, R. 1978
194 Blood	Inhalation Ingestion		a) 501 b) 501 c) 472 d) 472 e) 29 f) 29	a) 0.01-1.01 ug/100 ml b) 0.01-1.03 ug/100 ml c) 0.01-0.97 ug/100 ml d) 0.01-1.03 ug/100 ml e) 0.04-1.01 ug/100 ml f) 0.01-0.47 ug/100 ml	a) 0.15 ug/100 ml b) 0.1 ug/100 ml c) 0.14 ug/100 ml d) 0.09 ug/100 ml e) 0.29 ug/100 ml f) 0.21 ug/100 ml	a) All women b) All newborn c) European women d) European newborn e) Afro-Asian women, aged 18-40 yr, mean 26 yr f) Afro-Asian newborn Samples taken at delivery from mothers by venipuncture and from newborn at the umbilical cord. The women lived in areas of Belgium (Antwerp, Brussels, Louvain, Tournai and Vilvoorde) with various degrees of industrialization and urbanization. BLOOD; ADULTS; INFANTS; LEAD; MERCURY; CADMIUM; CARBON INORGANIC COMPOUNDS; METALS; BELGIUM; COMPARATIVE EVALUATIONS; UMBILICAL CORD; PLACENTA	Lauwerys, R. Buchet, J.P. Roels, H. Hubermont, G. 1978

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Cadmium
7440-43-9
Cd, At# 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
195 Blood		AAS	276	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 0.5 ug/100 ml b) 0.7 ug/100 ml c) 0.5 ug/100 ml d) 0.4 ug/100 ml e) 0.9 ug/100 ml f) 0.8 ug/100 ml	a) Policemen on foot patrol b) Office workers in downtown Houston (control for (a)) c) Garage attendants d) Orderlies and custodians (control for (b)) e) Females living within 2 blocks of freeway f) Females living away from freeway (control for (e)) Six groups, each of 26 individuals, in the metropolitan area of Houston, TX, policemen on foot patrol, office workers in downtown Houston, garage attendants, orderlies and custodians, females living within two blocks of a freeway, and females living away from a freeway. CADMIUM; LEAD; TRACE ELEMENTS; TEXAS; BLOOD; URINE; HAIR; FECES; ZINC; MANGANESE; COPPER; PLATINUM; PALLADIUM; METALS; AUTOMOTIVE; OCCUPATIONAL HAZARDS	Johnson, D.E. Tillery, J.B. Prevost, R.J. 1975
196 Blood		ASV	a) 47 b) 90	a) <0.1-9.6 ug/100 ml b) 0.07-3.72 ug/100 ml	a) 1.71 ug/100 ml b) 0.57 ug/100 ml	a) Ann Arbor population b) Yanomamo population 100 blood donors, 18-58 yr old, from Ann Arbor, Michigan. 137 Yanomamo Indians from Venezuela. BLOOD; URINE; HAIR; VENEZUELA; MERCURY; CADMIUM; LEAD; COPPER; METALS; MICHIGAN	Hecker, L.H. Allen, H.E. Dinman, B.D. Neel, J.V. 1974
197 Blood		APDC-MIBK AAS	4	Not given	0.3 ug/100 ml	BLOOD; URINE; HAIR; CADMIUM; INTEGUMENT; KIDNEYS; LIVER; METALS	Ullucci, P.A. Hwang, J.Y. 1974

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Cadmium
7440-43-9
Cd, AtW 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
198 Blood	Ingestion Inhalation	APDC-MIBK AAS	369	0.0-2.8 ug/100 ml	0.3 ug/100 ml	Children, 1-8 hr in Newark, NJ. Paint CADMIUM; LEAD; ZINC; METALS; BLOOD; CHILDREN; PAINTS; POPULATION EXPOSURE; URBAN AREAS; NEW JERSEY	Bogden, J.D. Singh, N.P. Joselow, M.M. 1974
199 Blood		AAS	a) 22 b) 20	a) 0.4-4.0 ng/g b) 0.5-4.3 ng/g	a) 1.8 ng/g b) 1.5 ng/g	a) Preoperational values b) Postoperational values Preoperational values should be regarded as better indicators of long-term average values. Samples from routine gallbladder operations of 23 volunteers as follows: 19 women, 31-66 yr (mean of 47 yr and 4 men, 26-66 yr (mean of 32 yr). CADMIUM; METALS; BLOOD; LIVER; BILE	Elinder, C-G. Kjellstrom, T. Lind, B. Molander, M.-L. Silander, T. 1978

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Cadmium
7440-43-9
Cd, Atw 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
200 Blood	Inhalation Ingestion	AAS	a) 40 b) 29 c) 45	a) 0.02-0.41 ug/100 ml b) 0.01-0.27 ug/100 ml c) 0.01-0.24 ug/100 ml	a) 0.11 ug/100 ml b) 0.06 ug/100 ml c) 0.07 ug/100 ml	a) <1 km from Pb smelter b) 2.5 km from Pb smelter c) Rural area (Controls) Samples from children, aged 10-14 yr, living and going to school at various distances from a Pb smelter in Leuven, Belgium. No remarkable socioeconomic differences were found between the groups. Follow-up study 18 months after pollution control measures were implemented. All children appeared in good health. Emissions from Pb smelter LEAD; CADMIUM; METALS; SMELTERS; CHILDREN; BLOOD; URINE; ENZYMES; INDUSTRIAL EMISSIONS; COMPARATIVE EVALUATIONS; BELGIUM; AIR POLLUTION	Roels, H.A. Bechet, J.P. Lauwerys, R. Bruaux, P. Claeys-Thoreau, F. Lafontaine, A. van Overschelde, J. Verduyn, G. 1978
209 Blood	Ingestion Inhalation	AAS	a) 2 b) 2 c) 17	a) 1.5-5 ng/g b) 0.8-65 ng/g c) 3-60 ng/g	a) Not given b) Not given c) Not given	a) Before Cd exposure b) After Cd exposure c) After 1 yr exposure Half-life calculated from data for 17 workers. Data from other Cd studies also used to derive and test model. Samples from 17 newly employed workers in a Cd battery factory (Sweden). Starting a week before first exposure, samples were collected at weekly to monthly intervals for about a year. Factory air was monitored. 77 days Dust in Cd battery factory CADMIUM; METALS; BLOOD; URINE; METABOLISM; KIDNEYS; LIVER; DUST; INDUSTRIAL POLLUTION; SMOKING; BIOACCUMULATION; SWEDEN	Kjellstrom, T. Nordberg, G.F. 1978

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Cadmium
7440-43-9
Cd, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
202 Blood		AAS		a) 0.3 - 4.8 ug/100 ml b) Not given	a) 1.68 ug/100 ml b) 1.56 ug/100 ml	a) Controls b) Autoworkers Autoworkers with high blood Pb levels. CADMIUM; NICKEL; MANGANESE; COPPER; CHROMIUM; METALS; OCCUPATIONAL HAZARDS; LEAD; LEVULINIC ACIDS; ENZYMES; HEMOGLOBINS; CARBON INORGANIC COMPOUNDS; AIR POLLUTION; AUTOMOTIVE; INDUSTRIAL PLANTS; BLOOD	Clausen, J. Rastogi, S.C. 1977b
203 Blood		AAS	25	0.05-0.58 ug/g wet wt	0.17 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER, PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
204 Blood		AAS	16	0.2-2.8 ug/100g	Not given	Occupationally exposed workers. Cadmium-induced proteinuria was reversible in some workers, but still present in two workers after 10 years. Cadmium-induced anemia was also reversible. Fumes in work area METALS; CADMIUM; BLOOD; URINE; INDUSTRIAL POLLUTION	Tsuchiya, K. 1976

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Cadmium
7440-43-9
Cd, Atw 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
205 Blood		AAS	a) 8 b) 11 c) 12 d) 13 e) 13 f) 12 g) 12 h) 8	a) 0.006-0.12 ug/100 ml b) 0.03-0.06 ug/100 ml c) 0.06-0.61 ug/100 ml d) 0.09-0.31 ug/100 ml e) 0.02-0.10 ug/100 ml f) 0.03-0.09 ug/100 ml g) 0.05-0.76 ug/100 ml h) 0.06-0.39 ug/100 ml	a) 0.08 ug/100 ml b) 0.04 ug/100 ml c) 0.25 ug/100 ml d) 0.21 ug/100 ml e) 0.05 ug/100 ml f) 0.05 ug/100 ml g) 0.20 ug/100 ml h) 0.19 ug/100 ml	a) Male non-smokers aged 20-35 yr b) Male non-smokers aged 36-55 yr c) Male smokers aged 20-35 yr d) Male smokers aged 36-55 yr e) Female non-smokers aged 20-35 yr f) Female non-smokers aged 36-55 yr g) Female smokers aged 20-35 yr h) Female smokers aged 36-55 yr Healthy, nonoccupationally exposed individuals from urban and semirural areas of Sweden. METALS; CADMIUM; SWEDEN; MEASUREMENT METHODS; BLOOD	Ulander, A. Axelson, O. 1974

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
206 Blood		AAS	a) 31 b) 31 c) 27 d) 22 e) 22	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 1.99 ug/100 ml b) 0.97 ug/100 ml c) 3.0 ug/100 ml d) 2.6 ug/100 ml e) 0.7 ug/100 ml	a) Women occupationally exposed (mean time 4.08 yr) to 31 ug/cu m (total) and 1.4 ug/cu m (respirable) Cd dust b) Controls (women) c) Men occupationally exposed (mean time 8.6 yr) to 138 ug/cu m (total) and a maximum 88 ug/cu m (respirable) dust d) Men occupationally exposed (mean time 27.8 yr) to 66 ug/cu m (total) and 21 ug/cu m (respirable) Cd dust e) Controls (men) Workers at an electronic workshop, storage battery factory, and Cd producing plant. The mean ages were 30.5 yr(a), 38.6 yr(c) and 51.5 yr (d). 50% or more were smokers. Workers with >20 yr exposure had significant reductions in several pulmonary ventilatory functions and significant levels of kidney damage (68% showed excessive proteinuria). Workers with <20 yr exposure had no significant changes in pulmonary functions, but some showed evidence of kidney damage. Dust in workplace METALS; CADMIUM; INDUSTRIAL POLLUTION; BLOOD; URINE	Lauwerys, R.R. Buchet, J.P. Roels, H.A. Brouwers, J. Stanescu, D. 1974
207 Blood, serum		AAS		a) Not given b) Not given	a) 0.0017 ug/ml b) 0.0022 ug/ml	a) 10 ml sample b) 100 ml sample ZINC; METALS; BLOOD SERUM; METALLOPROTEINS; LIVER; MEASUREMENT METHODS; COPPER; CADMIUM	Falchuk, K.H. Evenson, M. Vallee, B.L. 1974

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Cadmium
7440-43-9
Cd, AtW 112.40, MP 321° C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
208 Blood, whole		AAS	37 35 Controls	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 2.38 ug/100 ml b) 2.02 ug/100 ml c) 4.33 ug/100 ml d) 3.70 ug/100 ml e) 6.54 ug/100 ml f) 6.45 ug/100 ml	a) Control, smokers b) Control, non-smokers c) Chronic renal failure, pre-dialysis, smokers d) Chronic renal failure, pre-dialysis, non-smokers e) Chronic renal failure, post-dialysis, smokers f) Chronic renal failure, post-dialysis, non-smokers No correlation between Cd concentrations and renal disorders or bone diseases. Hospital patients (smokers and non-smokers) with chronic renal failure. CADMIUM; BLOOD; URINE; KIDNEYS; DISEASES; BONE DISEASES; METALS; UNITED KINGDOM	Wilden, E.G. Hyne, E.E.B. 1974

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Cadmium
7440-43-9
Cd, At# 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 605 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
209 Blood, whole	Ingestion Inhalation	AAS	457, 259 Controls	a) Not given b) Not given c) Not given	a) 0.21 ug/100 ml b) 0.30 ug/100 ml c) 0.20 ug/100 ml	a) Lead smelter towns b) Zinc smelter towns c) Controls Samples from children living in 19 towns with primary non-ferrous smelters. Control group of same ages in three communities without smelters. Reports from industry of cadmium neuropathy could not be related to lower-level exposures described in this survey. Stack emissions ARSENIC; LEAD; CADMIUM; HAIR; URINE; BLOOD; ERYTHROCYTES; SMELTERS; COPPER; ZINC; CHILDREN; POPULATION EXPOSURE; METALS; AIR POLLUTION; WATER POLLUTION; NEW MEXICO; MISSOURI; ARIZONA; MONTANA; TENNESSEE; NEVADA; MICHIGAN; OKLAHOMA; TEXAS; PENNSYLVANIA	Baker, E.L., Jr. Hayes, C.G. Landrigan, P.J. Handke, J.L. Leger, E.T. Houseworth, W.J. Harrington, J.M. 1977

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Cadmium
7440-43-9
Cd, Atw 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
210 Blood, whole		AAS	a) 125 b) 105 c) 35 d) 90 e) 26 f) 79	a) <0.04-1.77 ug/100 ml b) <0.04-0.69 ug/100 ml c) 0.06-0.62 ug/100 ml, d) <0.04-1.77 ug/100 ml e) <0.04-0.69 ug/100 ml f) <0.04-0.42 ug/100 ml	a) 0.14 ug/100 ml b) 0.12 ug/100 ml c) Not given d) Not given e) Not given e) Not given	a) Persons living 2 km from smelter b) Controls c) Smokers living 2 km from smelter d) Non-smokers living 2 km from smelter e) Smokers, control area f) Non-smokers, control area Samples from residents of Denver, Colorado, age range 1-82 yr, 39% white, 18% black, 42% Mexican-American, 6.7 mean residential years in area, one case of possible occupational exposure. No indication of hematopoietic or renal dysfunction. Stack emissions CADMIUM; POPULATION EXPOSURE; METALS; COLORADO; SMELTERS; AIR POLLUTION; TOBACCOS; SMOKING; BLOOD; URINE	Wysowski, D.K. Landrigan, P.J. Ferguson, S.W. Fontaine, R.E. Tsongas, T.A. Porter, B. 1978
211 Blood, whole			31	<9-133 nmol/l	Not given	Residents near zinc mine. High value from industrial exposure, next highest value is 59 nmol/l. Residents of Shipham, Somerset, where soil Cd was high. 14 females, aged 28 to 83 yr, 17 males, aged 15 to 79 yr. Increased prevalence of hypertension and other stigmata of cardiovascular disease, evidence of renal tubular damage. CADMIUM; ZINC; LEAD; METALS; MINING; BLOOD; UNITED KINGDOM; METAL POISONING; FOOD CONTAMINATION	Carruthers, M. Smith, B. 1979

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Cadmium
7440-43-9
Cd, AtW 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
212 Blood, whole	Ingestion	APDC-MIBK AAS	64	7-62 ng/g	26 ng/g (median)	Japanese women living in a contaminated area. Contaminated food and water METALS; CADMIUM; JAPAN; BLOOD; URINE	Kjellstrom, T. Shiroishi, K. Ervin, P.E. 1977
213 Body	Ingestion	Radiometry	a) 14 b) 1	a) 0.7-15.6% b) Not applicable	a) 4.6% b) 87%	a) Retention of Cd between 7 and 14 d after Cr elimination Approx 86% Cd excreted 1st wk Excretion rate slow and variable next 1-5 wk b) Ileostomy patient, 87% Cd excreted within 24 hr. 14 healthy volunteers aged 21-61 yr, and one patient with an ileostomy were given radioisotopes of Cd and Cr after they had consumed a breakfast containing 22-29 ug Cd. 100 days CADMIUM; CHROMIUM; METALS; RADIOISOTOPES; CANADA	McLellan, J.S. Flanagan, P.R. Chamberlain, M.J. Valberg, L.S. 1978
214 Bone			68, 6 Controls	a) 0-31.5 ug/g wet wt b) 0-24.4 ug/g wet wt c) 0.03-0.95 ug/g wet wt	a) 5.2 ug/g wet wt b) 2.2 ug/g wet wt c) Not given	a) Rib (stillbirth) b) Vertebra (stillbirth) c) Control Samples of rib and/or vertebra obtained from children stillborn in Birmingham hospitals. Six samples from adult road-accident victims aged 24-75 yr. LEAD; CADMIUM; INFANTS; BONES; VERTEBRAE; METALS; RIBS; UNITED KINGDOM	Bryce-Smith, D. Deshpande, R.R. Hughes, J. Waldron, H.A. 1977

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Cadmium
7440-43-9
Cd, At.W 112.40, mp 321 C, Bp 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 487 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
215 Bone		APDC-MIBK AAS	1	Not applicable	a) 1.7 ppm wet wt b) 2.4 ppm wet wt	a) Spinous process b) Rib 70-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES	Nogawa, K. Ishizaki, A. Fukushima, M. 1975
216 Bone		AAS	12	0.04-0.21 ug/g wet wt	0.097 ug/g wet wt	Rib samples Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Cadmium
7440-43-9
Cd, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
217 Brain		APDC-MIBK AAS	1	Not applicable	0.77 ppm wet wt	74-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES	Nogawa, K. Ishizaki, A. Fukushima, M. 1975
218 Brain		AAS	a) 27 b) 20	a) 0.020-0.23 ug/g wet wt b) 0.030-0.23 ug/g wet wt	a) 0.12 ug/g wet wt b) 0.12 ug/g wet wt	a) Cerebrum b) Cerebellum Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Cadmium
7440-43-9
Cd, AtW 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
219 Diaphragm		APDC-MIBK AAS	1	Not applicable	11 ppm wet wt	74-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES	Nogawa, K. Ishizaki, A. Fukushima, M. 1975
220 Esophagus		APDC-MIBK AAS	1	Not applicable	9.1 ppm wet wt	74-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES	Nogawa, K. Ishizaki, A. Fukushima, M. 1975

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Cadmium
7440-43-9
Cd, [illegible] 112.40, mp 321 C, bp 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
221 Hair	Ingestion Inhalation	AAS	1293, 160 Controls	a) Not given b) Not given c) Not given d) Not given	a) 5.34 ug/g b) 1.88 ug/g c) 5.57 ug/g d) 0.93 ug/g	a) Lead smelter towns b) Copper smelter towns c) Zinc smelter towns d) Controls Samples from children living in 19 towns with primary non-ferrous smelters. Control group of same ages in three communities without smelters. Reports from industry of cadmium neuropathy could not be related to lower-level exposures described in this survey. Stack Emissions ARSENIC; LEAD; CADMIUM; HAIR; URINE; BLOOD; ERYTHROCYTES; SMELTERS; COPPER; ZINC; CHILDREN; POPULATION EXPOSURE; METALS; AIR POLLUTION; WATER POLLUTION; NEW MEXICO; MISSOURI; ARIZONA; MONTANA; TENNESSEE; NEVADA; MICHIGAN; OKLAHOMA; TEXAS; PENNSYLVANIA	Baker, E.L., Jr. Hayes, C.G. Landrigan, P.J. Randke, J.L. Leger, E.T. Housworth, W.J. Harrington, J.M. 1977
222 Hair		AAS	10	0.6-6.9 ug/g	Not given	Average of 86% Cd extracted with 1% nitric acid Specimens from donors aged 12 to 60 yr and from various geographic exposure areas. SODIUM; MAGNESIUM; POTASSIUM; CALCIUM; MANGANESE; ZINC; NICKEL; COPPER; IRON; CADMIUM; LEAD; HAIR; NUTRITIONAL DEFICIENCIES; BIOACCUMULATION; MINERAL METABOLISM; METALS; TRACE ELEMENTS	Rinnert, T.A. Terrill, W.J. Kent, J.L. Colucci, A.V. 1974

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
223 Hair		AAS	216	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 1.1 ug/g b) 1.1 ug/g c) 1.0 ug/g d) 2.2 ug/g e) 0.6 ug/g f) 0.7 ug/g	a) Policemen on foot patrol b) Office workers in downtown Houston (control for (a)) c) Garage attendants d) Orderlies and custodians (control for (b)) e) Females living within 2 blocks of freeway f) Females living away from freeway (control for (e)) Six groups, each of 26 individuals, in the metropolitan area of Houston, TX, policemen on foot patrol, office workers in downtown Houston, garage attendants, orderlies and custodians, females living within two blocks of a freeway, and females living away from a freeway. CADMIUM; LEAD; TRACE ELEMENTS; TEXAS; BLOOD; URINE; HAIR; FECES; ZINC; MANGANESE; COPPER; PLATINUM; PALLADIUM; METALS; AUTOMOTIVE; OCCUPATIONAL HAZARDS	Johnson, D.E. Tillery, J.B. Prevost, R.J. 1975
224 Hair,		AAS	50	30.69-530.47 ppm	158.38 ppm	Values given are expressed as ash weight. Correlations between kidney-liver Cd levels were strongest and hair-lung levels weakest. Autopsies of 50 subjects in New York City between the ages of 19 to 80 years. Most subjects were accident or homicide victims. Many suffered from narcotism, cancer, and cardiovascular diseases. CADMIUM; METALS; AUTOPSIES; NEW YORK; KIDNEYS; LIVER; LUNGS; HAIR; BIOACCUMULATION	Oleru, U.G. 1976

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Cadmium
7440-43-9
Cd. [illegible] at [illegible] C, [illegible] at [illegible] C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
225 Hair		AAS	17	a) Not given b) Not given	a) 2.49 ppm b) 1.98 ppm	a) Occupationally exposed b) Controls Log sub10 values used in the study, of which this report is a part, in order to keep the error coefficient relatively constant. Samples from men (mean age of 28.75 years) engaged in plumbing, painting, and construction. Controls were Montclair, New Jersey men 25-34 years old. CADMIUM; METALS; OCCUPATIONAL HAZARDS; HAIR; KIDNEYS; LIVER; LUNGS; BIOACCUMULATION; BIOINDICATORS; NEW JERSEY; NEW YORK	Cleru, U.G. 1975
226 Hair		AAS	8	0.8-4.9 ppm	2.9 ppm	BLOOD; URINE; HAIR; CADMIUM; INTEGUMENT; KIDNEYS; LIVER; METALS	Ullucci, P.A. Hwang, J.Y. 1974
227 Hair		AAS	a) 4 b) 7 c) 9 d) 8 e) 14 f) 62	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 0.45 ppm wet wt b) 2.17 ppm wet wt c) 0.67 ppm wet wt d) 0.57 ppm wet wt e) 1.23 ppm wet wt f) 1.32 ppm wet wt	a) 0-1 month b) 2-5 yr c) 25-34 yr d) 55-64 yr e) Blacks - both sexes f) Whites - both sexes Autopsies of 107 cases from the Cincinnati area, fetal to old age. 35 died from accidents, 8 were intoxication related, 9 cardiovascular, and 20 abortions 72 individuals suffered instantaneous deaths. CADMIUM; LIVER; KIDNEYS; HAIR; METALS; FETUS; BIOACCUMULATION; AUTOPSIES; AGE; RACIAL STUDIES; OHIO	Gross, S.B. Yeager, D.W. Middendorf, M.S. 1976

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Cadmium
7440-43-9
Cd, AtW 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
228 Heart	Ingestion	AAS	a) 251 b) 131	a) Not given b) Not given	a) 0.184 ug/g b) 0.267 ug/g	a) Males b) Females Biological half-times (BHT) by observation of accumulation from 0-90 years and calculation by a mathematical model. Autopsy samples from Tokyo accident victims with no known occupational exposure. 22 yr CADMIUM; MERCURY; LEAD; METALS; AUTOPSIES; BIOACCUMULATION; AGE; SEX; FOODS; JAPAN	Sugita, M. 1978
229 Heart		AAS	27	0.060-0.33 ug/g wet wt	0.16 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN, TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sunino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Cadmium
7440-43-9
Cd, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
230 Intestine		APDC-MIBK AAS	1	a) Not applicable b) Not applicable	a) 11 ppm wet wt b) 9.2 ppm wet wt	a) Small intestine b) Large intestine 74-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES	Nogawa, K. Ishizaki, A. Fukushima, M. 1975
231 Intestine			a) 27 b) 27	a) 0.39-1.9 ug/g wet wt b) 0.13-0.98 ug/g wet wt	a) 1.1 ug/g wet wt b) 0.43 ug/g wet wt	a) Small intestine b) Large intestine Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Cadmium
7440-43-9
Cd, AtW 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
232 Kidney		CC AAS	a) 14 b) 5 c) 21	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 152.0 ug/g dry wt b) 219 ug/g dry wt c) 83 ug/g dry wt d) 95 ug/g dry wt e) 147 ug/g dry wt f) 89 ug/g dry wt	a) Low metallcthionein in cortex b) High metallothionein in cortex c) Reference group - no metallothionein in cortex d) Low metallothionein in medulla e) High metallothionein in medulla f) Reference group - no metallothionein in medulla The absence of metallothionein combined with a low body burden of cadmium seemed to be associated with longevity. Approximately half of the group had died of cardiovascular disease. In group b) 4 or 5 were smokers and eventually died from cardiovascular disease. CADMIUM; METALS; KIDNEYS; LIVER; POPULATION EXPOSURE; METALLOPROTEINS; ZINC; SMOKING; CARDIOVASCULAR DISEASES; NORWAY	Syversen, T.L.M. 1975
233 Kidney	Ingestion Inhalation	AAS	a) 287 b) 9	a) 1-152 ug/g wet wt b) 5-156 ug/g wet wt	a) Not given b) Not given	a) Low-Cd exposure b) High-Cd exposure Values are for renal cortex Data supports premise of equimolar increases in Zn with increased Cd in kidneys if Cd is < 60 ug/g wet wt 288 kidney cortex samples, 289 liver samples, and 285 pancreas samples from 292 autopsies performed in Stockholm, Sweden. The Stockholm area is a low-Cd exposure area so additional liver and kidney cortex samples were obtained from autopsies on 6 men and 3 women who had lived near or worked in Cd-emitting plants. ZINC; CADMIUM; BIOACCUMULATION; SWEDEN; COMPARATIVE EVALUATIONS; LIVER; KIDNEYS; PANCREAS; METALS	Elinder, C-G. Piscator, M. Linnman, L. 1977

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Cadmium
7440-43-9
Cd, [illegible], MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
234 Kidney		AAS	50	602.56-5350.51 ppm	1548.82 ppm	Values given are expressed as ash weight. Correlations between kidney-liver Cd levels were strongest and hair-lung levels weakest. Autopsies of 50 subjects in New York City between the ages of 19 to 80 years. Most subjects were accident or homicide victims. Many suffered from narcotism, cancer, and cardiovascular diseases. CADMIUM; METALS; AUTOPSIES; NEW YORK; KIDNEYS; LIVER; LUNGS; HAIR; BIOACCUMULATION	Oleru, U.G. 1976
235 Kidney		AAS	3 samples (9 determinations)	2.1-167 ppm	72.6 ppm	Flameless technique Heterogenous distribution of Cd in the organ. Autopsy samples BLOOD; URINE; HAIR; CADMIUM; INTEGUMENT; KIDNEYS; LIVER; METALS	Ullucci, P.A. Hwang, J.Y. 1974
236 Kidney		APDC-MIBK AAS	1	a) Not applicable b) Not applicable	a) 53 ppm wet wt b) 35 ppm wet wt	a) Renal cortex b) Renal medulla 74-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES	Nogawa, K. Ishizaki, A. Fukushima, M. 1975

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Cadmium
7440-43-9
Cd, At.Wt 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
237 Kidney		AAS	a) 7 b) 7 c) 10 d) 9 e) 17 f) 70	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 0.05 ppm wet wt b) 13.33 ppm wet wt c) 28.40 ppm wet wt d) 30.09 ppm wet wt e) 11.58 ppm wet wt f) 14.92 ppm wet wt	a) 0-1 month b) 2-5 yr c) 25-34 yr d) 55-64 yr e) Blacks - both sexes f) Whites - both sexes Autopsies of 107 cases from the Cincinnati area, fetal to old age. Thirty-five died from accidents, 8 were intoxication related, 9 cardiovascular, and 20 abortions 72 individuals suffered instantaneous deaths. CADMIUM; LIVER; KIDNEYS; HAIR; METALS; FETUS; BIOACCUMULATION; AUTOPSIES; AGE; RACIAL STUDIES; OHIO	Gross, S.B. Yeager, D.W. Hiddendorf, M.S. 1976
238 Kidney		AAS	a) 33 b) 42	a) 2.7-85.1 ug/g dry wt b) 14.6-224 ug/g dry wt	a) 15.1 ug/g dry wt b) 57.1 ug/g dry wt Geometric means	a) 19th century samples b) Non-smoking adults who died in 1974-1975 Values are for renal cortex cadmium concentration. Samples from 33 people who died in the latter part of the 19th century. Kidneys were preserved at Uppsala and Lund Universities. Autopsy samples from 42 non-smokers between 20 and 79 yr who died in 1974 and 1975. CADMIUM; COPPER; ZINC; METALS; TRACE ELEMENTS; KIDNEYS; POPULATION EXPOSURE; SWEDEN	Elinder, C-G. Kjellstrom, T. 1977

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Cadmium
7440-43-9
Cd, AtW 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
239 Kidney	Ingestion	AAS	a) 232 b) 122	a) Not given b) Not given	a) 38.4 ug/g b) 34.3 ug/g	a) Males b) Females Biological half-times (BHT) obtained by observation of accumulation from 0-90 years and calculation by a mathematical model. Autopsy samples from Tokyo accident victims with no known occupational exposure. 17 yr CADMIUM; MERCURY; LEAD; METALS; AUTOPSIES; BIOACCUMULATION; AGE; SEX; FOODS; JAPAN	Sugita, M. 1978
240 Kidney		AAS	30	10-98 ug/g wet wt	47 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Cadmium
7440-43-9
Cd, 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C (CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
24? Kidney						Review Chronic bronchitis, emphysema, anemia, hypertension Proteinuria, damage to renal tubules, formation of renal stones, Itai-Itai disease CADMIUM; METALS; INDUSTRIAL POLLUTION; AIR POLLUTION; WATER POLLUTION; FOOD CONTAMINATION; METABOLISM; BIOACCUMULATION; REVIEW; LIVER; KIDNEYS	Nordberg, G.F. 1974
242 Kidney		AAS	a) 6 b) 11 c) 11 d) 5 e) 10 f) 9	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 1260 ug/g ash wt b) 742 ug/g ash wt c) 1860 ug/g ash wt d) 933 ug/g ash wt e) 2890 ug/g ash wt f) 1630 ug/g ash wt	a) Normotensive nonsmokers b) Hypertensive nonsmokers c) Normotensive cigar, pipe, or cheroot smokers d) Hypertensive cigar, pipe, or cheroot smokers e) Normotensive cigarette smokers f) Hypertensive cigarette smokers Renal tissue taken at necropsy in 2 Danish hospitals. Samples from patients, aged 45-65, in 2 hospitals covering urban (Copenhagen) and rural (island of Zealand) districts. CADMIUM; METALS; KIDNEYS; SMOKING; DENMARK	Ostergaard, K. 1977

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Cadmium
7440-43-9
Cd, [illegible], MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 1/ mm Hg at 484 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
243 Kidney		NA	a) 115 b) 93 c) 12 d) 11	a) <87 ppm b) 87-200 ppm c) 200-248 ppm d) >248 ppm	a) Not given b) Not given c) Not given d) Not given	Groups based on percentiles a) To 50th b) To 90th c) To 95th d) Remainder Cd workers, with normal renal function. 78 with renal dysfunction had similar levels. 309 male workers in Cd plants in Belgium. CADMIUM; METALS; KIDNEYS; URINE; LIVER; BELGIUM; OCCUPATIONAL HAZARDS	Roels, H. Bernard, A. Buchet, J.P. Goret, A. Lauwerys, R. Chettle, D.R. Harvey, T.C. Al Haddad, I. 1979
244 Liver		AAS		Not given	4230 ug/g	Value is for metallothioneins. ZINC; METALS; BLOOD SERUM; METALLOPROTEINS; LIVER; MEASUREMENT METHODS; COPPER; CADMIUM	Falchuk, K.H. Evenson, M. Vallee, B.L. 1974
245 Liver		NA	20	a) 35-200 ppm b) 0-2 ppm	a) Not given b) Not given	a) Industrial workers b) Non-exposed patients One of 6 livers from necropsy had detectable Cd at the 10 rem dose level (1.0 + or - 0.25 ppm). One of 4 cadavers showed Cd (0.5 + or - 0.4 ppm) for a 10 rem dose. Six livers were from patients who died of cancer or coronary thrombosis. Four cadavers obtained from anatomy school. Six patients had a variety of diseases, but no Cd exposure. Four patients had been occupationally exposed to Cd. LIVER; CADMIUM; URINE; CADAVERS; OCCUPATIONAL HAZARDS; DISEASES; METALS; UNITED KINGDOM	Harvey, T.C. Thomas, B.J. McLellan, J.S. Fremlin, J.H. 1975

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Cadmium
7440-43-9
Cd, AtW 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
246 Liver		CC AAS	a) 14 b) 5 c) 21	a) Not given b) Not given c) Not given	a) 9.1 ug/g dry wt b) 12.2 ug/g dry wt c) 6.3 ug/g dry wt	a) Low metallothionein in sample b) High metallothionein in sample c) Reference group - no metallothionein Autopsy specimens (random sample) of patients in Norway with an age range of 43-91. The absence of metallothionein combined with a low body burden of cadmium seemed to be associated with longevity. Approximately half of the group had died of cardiovascular disease. In group b) 4 or 5 were smokers and eventually died from cardiovascular disease. CADMIUM; METALS; KIDNEYS; LIVER; POPULATION EXPOSURE; METALLOPROTEINS; ZINC; SMOKING; CARDIOVASCULAR DISEASES; NORWAY	Syversen, T.L.M. 1975
247 Liver	Ingestion Inhalation	AAS	a) 9	0.3-16.1 ug/g wet wt	3.7 ug/g wet wt	6 men, 3 women, 59-77 yr, high-Cd area 2 of 284 low-Cd area liver samples had > 6 ug/g wet wt 288 kidney cortex samples, 289 liver samples, and 285 pancreas samples from 292 autopsies performed in Stockholm, Sweden. The Stockholm area is a low-Cd exposure area so additional liver and kidney cortex samples were obtained from autopsies on 6 men and 3 women who had lived near or worked in Cd-emitting plants. ZINC; CADMIUM; BIOACCUMULATION; SWEDEN; COMPARATIVE EVALUATIONS; LIVER; KIDNEYS; PANCREAS; METALS	Elinder, C-G. Piscator, M. Linnman, L. 1977

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Cadmium
7440-43-9
Cd, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
248 Liver		NA	13	a) Not given b) Not given c) Not given d) 65-110 ppm	a) <0.5 ppm b) 1.0 ppm c) 2.0 ppm d) not given	a) Autopsies - 5 cases b) Autopsies - 1 case c) One cadaver d) Patient with Cd poisoning Six livers removed at autopsy from patients with various diseases. Six cadavers and one patient with known chronic cadmium poisoning studied. LIVER; CADAVERS; AUTOPSIES; METAL POISONING; IRRADIATION; IN VIVO ANALYSIS; RADIATION DOSES; INDUSTRIAL MEDICINE; METALS	McLellan, J.S. Thomas, B.J. Fremlin, J.H. Harvey, T.C. 1975
249 Liver		AAS	59	a) Not given b) Not given	a) 277 ppm b) 145 ppm	a) Residents dead of heart disease b) Residents dead of other causes No correlation between cigarette smoking and liver Cd. Samples from autopsies in North Carolina. Decedents were aged 30 and over. Strong correlation found between liver concentration of cadmium and death from heart disease. Heart-related death causes are given by cadmium level. LIVER; CADMIUM; METALS; HEART DISEASES; AUTOPSIES; TOBACCOS; SMOKING; NORTH CAROLINA	Voors, A.W. Shuman, M.S. 1977

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Cadmium
7440-43-9
Cd, mw 112.40, mp 321 C, bp 765 C, vp 1 mm Hg at 394 C, 10 mm Hg at 488 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
250 Liver		AAS	50	31.20-414.95 ppm	104.83 ppm	Values given are expressed as ash weight. Correlations between kidney-liver Cd levels were strongest and hair-lung levels weakest. Autopsies of 50 subjects in New York City between the ages of 19 to 80 years. Most subjects were accident or homicide victims. Many suffered from narcotism, cancer, and cardiovascular diseases. CADMIUM; METALS; AUTOPSIES; NEW YORK; KIDNEYS; LIVER; LUNGS; HAIR; BIOACCUMULATION	Oleru, U.G. 1976
251 Liver		AAS	1 sample (3 determinations)	2.2-4.8 ppm	3.3 ppm	Flameless technique Autopsy samples BLOOD; URINE; HAIR; CADMIUM; INTEGUMENT; KIDNEYS; LIVER; METALS	Ullucci, P.A. Hwang, J.Y. 1974
252 Liver		APDC-MIBK AAS	1	Not applicable	75 ppm wet wt	74-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; INTMOID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES	Nogawa, K. Ishizaki, A. Fukushima, M. 1975

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Cadmium
7440-43-9
Cd, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
253 Liver		AAS	a) 7 b) 7 c) 10 d) 9 e) 17 f) 77	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 0.01 ppm wet wt b) 0.32 ppm wet wt c) 1.25 ppm wet wt d) 1.96 ppm wet wt e) 0.39 ppm wet wt f) 1.01 ppm wet wt	a) 0-1 month b) 2-5 yr c) 25-34 yr d) 55-64 yr e) Blacks - both sexes f) Whites - both sexes Autopsies of 107 cases from the Cincinnati area, fetal to old age. 35 died from accidents, 8 were intoxication related, 9 cardiovascular, and 20 abortions 72 individuals suffered instantaneous deaths. CADMIUM; LIVER; KIDNEYS; HAIR; METALS; FETUS; BIOACCUMULATION; AUTOPSIES; AGE; RACIAL STUDIES; OHIO	Gross, S.B. Yeager, D.W. Middendorf, W.S. 1976
254 Liver		AAS	23	a) Not given b) Not given c) Not given	a) 2.4 ug/g dry wt b) 6.4 ug/g dry wt c) 11.0 ug/g dry wt	a) Subgroup 1 b) Subgroup 2 c) Subgroup 3 (Subgroups based on Cd concentration) Subgroups based on liver Cd concentration. Samples from routine gallbladder operations of 23 volunteers as follows: 19 women, 31-66 yr (mean of 47 yr) and 4 men, 26-66 yr (mean of 32 yr). CADMIUM; METALS; BLOOD; LIVER; BILE	Elinder, C-G. Kjellstrom, T. Lind, B. Molander, M.-L. Silander, T. 1978

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Cadmium
7440-43-9
Cd, AtW 112.40, MP 320 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
255 Liver	Ingestion	AAS	a) 223 b) 99	a) Not given b) Not given	a) 3.30 ug/g b) 0.04 ug/g	a) Males b) Females Biological half-times (BHT) obtained by observation of accumulation from 0-90 years and calculation by a mathematical model. Autopsy samples from Tokyo accident victims with no known occupational exposure. 13 yr CADMIUM; MERCURY; LEAD; METALS; AUTOPSIES; BIOACCUMULATION; AGE; SEX; FOODS; JAPAN	Sugita, M. 1978
256 Liver		AAS	30	1.1-23.0 ug/g wet wt	5.7 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Cadmium
7440-43-9
Cd, AtW 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 484 C

[CONTINUED]

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
257 Liver		NA	a) 21 b) 10	a) Not given b) Not given	a) 11.0 ppm b) 2.2 ppm	a) Environmental exposure b) Controls People, aged 40-62 yrs, from Shipham, Somerset, contaminated from extinct calamine workings, and non-Shipham controls of similar age. CADMIUM; METALS; LIVER; POPULATION EXPOSURE; FOOD CONTAMINATION; MINING; UNITED KINGDOM	Harvey, T.C. Chettle, D.R. Fremlin, J.H. Al Haddad, I.K. Downey, S.P.M.J. 1979
258 Liver						Review Chronic bronchitis, emphysema, anemia, hypertension Proteinuria, damage to renal tubules, formation of renal stones, Itai-Itai disease CADMIUM; METALS; INDUSTRIAL POLLUTION; AIR POLLUTION; WATER POLLUTION; FOOD CONTAMINATION; METABOLISM; BIOACCUMULATION; REVIEW; LIVER; KIDNEYS	Nordberg, G.F. 1974
259 Liver		NA	a) 115 b) 93 c) 12 d) 11	a) <17 ppm b) 17-39 ppm c) 39-48 ppm d) >48 ppm	a) Not given b) Not given c) Not given d) Not given	Groups based on percentiles a) To 50th b) To 90th c) To 95th d) Remainder Cd workers, normal renal function. 78, renal dysfunction had significantly higher liver Cd than workers with normal renal function. 309 male workers in Cd plants in Belgium. CADMIUM; METALS; KIDNEYS; URINE; LIVER; BELGIUM; OCCUPATIONAL HAZARDS	Roels, H. Bernard, A. Buchet, J.P. Goret, A. Lauwerys, R. Chettle, D.R. Harvey, T.C. Al Haddad, I. 1979

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Cadmium
7440-43-9
Cd, AtW 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
260 Liver		ES	10	Not given	310 ug/g	Arithmetric mean Geometric mean=274 ug/g Concentrations based on ash weight Samples from ten healthy adult males who were accident victims. METALS; SILVER; ALUMINUM; BARIUM; CADMIUM; COBALT; CHROMIUM; COPPER; IRON; MANGANESE; MOLYBDENUM; NICKEL; LEAD; TIN; STRONTIUM; TITANIUM; ZINC; LIVER	Perry, H.M., Jr. Perry, E.F. Hixon, B.B. 1977
261 Lung		AAS	50	10.80-143.45 ppm	38.93 ppm	Values given are expressed as ash weight. Correlations between kidney-liver Cd levels were strongest and hair-lung levels weakest. Autopsies of 50 subjects in New York City between the ages of 19 to 80 years. Most subjects were accident or homicide victims. Many suffered from narcotism, cancer, and cardiovascular diseases. CADMIUM; METALS; AUTOPSIES; NEW YORK; KIDNEYS; LIVER; LUNGS; HAIR; BIOACCUMULATION	Olera, U.G. 1976

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
262 Lung		APDC-MIBK AAS	1	Not applicable	0.0 ppm wet wt	74-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES	Nogawa, K. Ishizaki, A. Fukushima, M. 1975
263 Lung		MS	98	0.08-6.5 ug/g dry wt	0.62 ug/g dry wt	Mean is geometric. Samples from deceased Cincinnati, OH residents, age range 23-96 years with a median of 66 years, evenly divided between men and women, blacks, and whites. Occupations included foundry workers, machinists, farmers, domestics, homemakers, clerical workers. Deaths were from normal causes. METALS; TRACE ELEMENTS; ALUMINUM; CADMIUM; CHROMIUM; COBALT; COPPER; GERMANIUM; IODINE; LEAD; MAGNESIUM; MANGANESE; MOLYBDENUM; SELENIUM; TITANIUM; VANADIUM; ZINC; AUTOPSIES; LUNGS; LYMPH NODES; URBAN AREAS; OHIO	Sweet, D.V. Crouse, W.E. Crable, J.V. 1978

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Cadmium
7440-43-9
Cd, AtW 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
264 Lung		AAS	30	0.15-2.3 ug/g wet wt	0.72 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
265 Lymph node		NS	98	0.01-31 ug/g dry wt	1.31 ug/g dry wt	Mean is geometric. Samples from deceased Cincinnati, OH residents, age range 23-96 years with a median of 66 years, evenly divided between men and women, blacks, and whites. Occupations included foundry workers, machinists, farmers, domestics, homemakers, clerical workers. Deaths were from normal causes. METALS; TRACE ELEMENTS; ALUMINUM; CADMIUM; CHROMIUM; COBALT; COPPER; GERMANIUM; IODINE; LEAD; MAGNESIUM; MANGANESE; MOLYBDENUM; SELENIUM; TITANIUM; VANADIUM; ZINC; AUTOPSIES; LUNGS; LYMPH NODES; URBAN AREAS; OHIO	Sweet, D.V. Crouse, W.E. Crable, J.V. 1978

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Cadmium
7440-43-9
Cd, At# 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
266 Muscle		APDC-MIBK AAS	1	a) Not applicable b) Not applicable	a) 24 ppm wet wt b) 3.4 ppm wet wt	a) Skeletal b) Cardiac 74-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES	Nogawa, K. Ishizaki, A. Fukushima, M. 1975
267 Muscle	Ingestion	AAS	a) 132 b) 76	a) Not given b) Not given	a) 0.265 ug/g b) 0.332 ug/g	a) Males b) Females Biological half-times (BHT) obtained by observation of accumulation from 0-90 years and calculation by a mathematical model. Autopsy samples from Tokyo accident victims with no known occupational exposure. 80 yr CADMIUM; MERCURY; LEAD; METALS; AUTOPSIES; BIOACCUMULATION; AGE; SEX; FOODS; JAPAN	Sugita, M. 1978

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Cadmium
7440-43-9
Cd. AtW 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
268 Muscle		AAS	25	0.075-1.1 ug/g wet wt	0.29 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
269 Nail		AAS	2 samples (3 determinations)	0.32-2.5 ppm	1.67 ppm	BLOOD; URINE; HAIR; CADMIUM; INTEGUMENT; KIDNEYS; LIVER; METALS	Ullucci, P.A. Hwang, J.Y. 1974
270 Ovary		AAS	12	0.21-1.9 ug/g wet wt	0.75 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Cadmium
7440-43-9
Cd, 112.40, BP 765 C, MP 321 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
271 Pancreas		APDC-MIBK AAS	1	Not applicable	52 ppm wet wt	78-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES	Noqawa, K. Ishizaki, A. Fukushima, M. 1975
272 Pancreas	Ingestion	AAS	a) 238 b) 341	a) Not given b) Not given	a) 1.65 ug/g b) 1.72 ug/g	a) Males b) Females Biological half-times (BHT) by observation of accumulation from 0-90 years and calculation by a mathematical model. Autopsy samples from Tokyo accident victims with no known occupational exposure. 12 yr CADMIUM; MERCURY; LEAD; METALS; AUTOPSIES; BIOACCUMULATION; AGE; SEX; FOODS; JAPAN	Sugita, M. 1978

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Cadmium
7440-43-9
Cd, At.W. 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
273 Pancreas		AAS	30	0.74-8.0 ug/g wet wt	2.7 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
274 Placenta	Inhalation Ingestion	AAS	a) 474 b) 333 c) 109 d) 47 e) 62 f) 166 g) 163	a) 0.25-7.89 ug/100 g wet wt b) 0.25-7.89 ug/100 g wet wt c) 0.34-4.38 ug/100 g wet wt d) 0.34-4.27 ug/100 g wet wt e) 0.46-4.38 ug/100 g wet wt f) 0.25-5.98 ug/100 g wet wt g) 0.26-7.89 ug/100 g wet wt	a) 1.32 ug/100 g wet wt b) 1.25 ug/100 g wet wt c) 1.57 ug/100 g wet wt d) 1.37 ug/100 g wet wt e) 1.71 ug/100 g wet wt f) 1.23 ug/100 g wet wt g) 1.26 ug/100 g wet wt	a) All women b) Nonsmokers c) Smokers d) Smokers, rural + Semirural e) Smokers, urban + industrial f) Nonsmokers, rural + semirural g) Nonsmokers, urban + industrial Placentas from women living in or near Antwerp, Brussels, Leuven (Louvain), Tournai, and Vilvoorde, Belgium. PLACENTA; BIOACCUMULATION; COMPARATIVE EVALUATIONS; SMOKING; BLOOD; LEAD; MERCURY; CADMIUM; BELGIUM; METALS; UMBILICAL CORD	Boels, H. Hubermont, G. Buchet, J.P. Lauwerys, R. 1978

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Cadmium
7440-43-9
Cd, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
275 Placenta			58	a) Not given b) Not given c) Not given d) Not given	a) 0.037 ug/g wet wt b) 0.053 ug/g wet wt c) 0.030 ug/g wet wt d) 0.028 ug/g wet wt	a) All cities b) Augusta, GA c) Birmingham, AL d) Charlotte, NC Metal levels correlated with enzyme activities. Samples from 58 normal placentas collected immediately at delivery in hospitals in Charlotte, NC, Birmingham, AL and Augusta, GA. PLACENTA; MANGANESE; BARIUM; CADMIUM; SELENIUM; MERCURY; TIN; VANADIUM; BERYLLIUM; SILVER; COBALT; NICKEL; CHROMIUM; COPPER; ZINC; LEAD; IRON; PLATINUM; BORON; ARSENIC; LITHIUM; METALS; TRACE ELEMENTS; ENZYMES; GEORGIA; ALABAMA; NORTH CAROLINA	Karp, W.B. Robertson, A.F. 1977
276 Skin		NA	a) 5 b) 5 c) 6 (Samples)	a) 0.02-0.20 ug/g dry wt b) 0.03-0.10 ug/g dry wt c) 0.01-0.04 ug/g dry wt	a) 0.096 ug/g dry wt b) 0.082 ug/g dry wt c) 0.042 ug/g dry wt	a) Normal b) Psoriatic uninvolved c) Psoriatic involved Loss per day via desquamation in untreated widespread scaling psoriasis may rise to 0.2 mg if whole body surface is involved. Specimens from trunk region of 14 males in Sweden. 9 were suffering from psoriasis (ages 0-59 yr, mean 46), and 5 had no evidence of skin disorder (ages 19-57 yr, mean 33) BROMINE; CADMIUM; CHROMIUM; MOLYBDENUM; RUBIDIUM; SELENIUM; ARSENIC; GOLD; CESIUM; MERCURY; LANTHANUM; ANTIMONY; SCANDIUM; SAMARIUM; TUNGSTEN; EPIDERMIS; SKIN DISEASES; METALS; TRACE ELEMENTS	Holm, L. Wester, P.O. 1974

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Cadmium
7440-43-9
Cd, AW 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
277 Skin		APDC-MIBK AAS	1	Not applicable	12 ppm wet wt	74-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES	Nogawa, K. Ishizaki, A. Fukushima, M. 1975
278 Skin		AAS	26	0.085-0.94 ug/g wet wt	0.32 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Cadmium
7440-43-9
Cd, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
279 Spleen		APDC-MIBK AAS	1	Not applicable	9.7 ppm wet wt	74-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES	Nogawa, K. Ishizaki, A. Fukushima, M. 1975
280 Spleen		AAS	22	0.20-2.4 ug/g wet wt	0.81 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Cadmium
7440-43-9
Cd, MW 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
281 Stomach		APDC-MIBK AAS	1	Not applicable	18 ppm wet wt	78-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; SPINE; CASE HISTORIES; AUTOPSIES	Nogawa, K. Ishizaki, A. Fukushima, N. 1975
282 Teeth		AAS		0.07-2.2 ppm dry wt	0.49 ppm dry wt	1% whole erupted or unerupted teeth. CADMIUM; LEAD; MEASUREMENT METHODS; TEETH; METALS; DENTISTRY	Langehr, F.J. Sundli, A. Jonsen, J. 1974
283 Teeth		ASV	a) 8 b) 2	a) 0.04-16.2 ppm b) 0.04-0.09 ppm	a) Not given b) Not given	a) 8 caries-free teeth from Norwegian teenagers b) Two powdered tooth mixtures Eight permanent teeth and two powdered tooth mixtures from Norwegian teenagers. BIOACCUMULATION; TEETH; ADOLESCENTS; NORWAY; METALS; COPPER; LEAD; CADMIUM; ZINC	Oehme, M. Lund, W. Jonsen, J. 1978

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Cadmium
7440-43-9
Cd, [illegible] mp 321 C, bp 765 C, vp 1 mm Hg at 394 C, 10 mm Hg at 484 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
284 Teeth		AAS	a) 2169 b) 31 Controls	a) <60-5822 ng/g dry wt b) <60-4471 ng/g dry wt	a) <60-1500 ng/g dry wt b) 393 ng/g dry wt	a) 138 of 2169 teeth had Cd >1000 ng/g: Of the 138, 21 had 2000-3500 ng/g Mean of 21 highest teeth 2450 ng/g Cd levels by city and county given in tables b) Controls, 26 of 31 teeth had Cd <100 ng/g Remaining 5 teeth had 130-2630 ng/g No correlation between population density or industrialization and Cd content. Deciduous teeth without fillings or soft carious material from Norwegian children, aged 7-12 yr, living in cities and counties with populations of 7000 to 473,000 CADMIUM; TEETH; BIOACCUMULATION; CHILDREN; BIOINDICATORS; METALS; NORWAY	Fosse, G. Berg-Justesen, N.P. 1977
285 Teeth		AAS	a) 4 b) 4 c) 26	a) 1.9-4.7 ppm b) 0.9-3.0 ppm c) Not given	a) 3.1 ppm b) 2.2 ppm c) 4.2 ppm	a) Teeth from fetuses, 1972-1973, enamel b) Teeth from fetuses, 1972-1973, dentine c) Teeth from cases of stillbirth and neonatal death, 1972-1973 LEAD; NICKEL; ZINC; CADMIUM; MANGANESE; IRON; METALS; TRACE ELEMENTS; TEETH; INFANTS; FETUS; UNITED KINGDOM	Stack, M.V. Burkitt, A.J. Bickless, G. 1976

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
286 Testicle		AAS	12	0.14-0.90 ug/g wet wt	0.52 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CALMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
287 Thyroid gland		APDC-MIBK AAS	1	Not applicable	87 ppm wet wt	74-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES	Nogawa, K. Ishizaki, A. Fukushima, M. 1975

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7440-43-9
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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
288 Trachea		APDC-MIBK AAS	1	Not applicable	9.3 ppm wet wt	74-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES	Nogawa, K. Ishizaki, A. Fukushima, M. 1975
289 Trachea		AAS	16	0.11-0.74 ug/g wet wt	0.36 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Cadmium
7440-43-9
Cd, At.W. 112.40, MP 321° C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
290 Urine		AAS	a) 35 b) 37	a) 26-68 ug/day b) 5-31 ug/day	a) Not given b) Not given	a) Control b) Chronic renal failure No correlation between Cd concentrations and renal disorders or bone diseases. Hospital patients (smokers and non-smokers) with chronic renal failure CADMIUM; BLOOD; URINE; KIDNEYS; DISEASES; BONE DISEASES; METALS; UNITED KINGDOM	Willden, E.G. Hyne, B.E.B. 1974
291 Urine		NA	20	29-156 ug/l	69 ug/l	Industrial workers Six livers were from patients who died of cancer or coronary thrombosis. Four cadavers obtained from anatomy school. Six patients had a variety of diseases, but no Cd exposure. Four patients had been occupationally exposed to Cd. LIVER; CADMIUM; URINE; CADAVERS; OCCUPATIONAL HAZARDS; DISEASES; METALS; UNITED KINGDOM	Harvey, T.C. Thomas, B.J. McLellan, J.S. Preslin, J.H. 1975

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Cadmium
7440-43-9
Cd, [illegible] 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
292 Urine		AAS	216	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 1.4 ug/l b) 0.6 ug/l c) 0.8 ug/l d) 0.5 ug/l e) 0.6 ug/l f) 0.6 ug/l	a) Policemen on foot patrol b) Office workers in downtown Houston (control for (a)) c) Garage attendants d) Orderlies and custodians (control for (b)) e) Females living within 2 blocks of freeway f) Females living away from freeway (control for (e)) Six groups, each of 26 individuals, in the metropolitan area of Houston, TX, policemen on foot patrol, office workers in downtown Houston, garage attendants, orderlies and custodians, females living within two blocks of a freeway, and females living away from a freeway. CADMIUM; LEAD; TRACE ELEMENTS; TEXAS; BLOOD; URINE; HAIR; FECES; ZINC; MANGANESE; COPPER; PLATINUM; PALLADIUM; METALS; AUTOMOTIVE; OCCUPATIONAL HAZARDS	Johnson, D.E. Tillery, J.B. Prevost, R.J. 1975
293 Urine		AAS	a) 18 b) 15	a) <0.04-1.11 ug/100 ml b) <0.04-0.94 ug/100 ml	a) 0.38 ug/100 ml b) 0.21 ug/100 ml	a) Persons living 2 km from smelter b) controls Other data available Samples from residents of Denver, Colorado, age range 1-82 yr, 39% white, 18% black, 42% Mexican-American, 6.7 mean residential years in area, one case of possible occupational exposure. No indication of hematopoietic or renal dysfunction. CADMIUM; POPULATION EXPOSURE; METALS; COLORADO; SMELTERS; AIR POLLUTION; TOBACCOS; SMOKING; BLOOD; URINE	Wysowski, D.K. Landrigan, P.J. Ferguson, S.W. Fontaine, R.E. Tsongas, T.A. Porter, B. 1978

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Cadmium
7440-43-9
Cd, MW 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
294 Urine		ASV	47	0-4.5 ug/l	1.2 ug/l	Yanomamo Indians Unacculturated population consisted of Yanomamo Indians of southern Venezuela. BLOOD; URINE; HAIR; VENEZUELA; MERCURY; CADMIUM; LEAD; COPPER; METALS; MICHIGAN	Hecker, L.H. Allen, H.E. Dinman, B.D. Neel, J.V. 1974
295 Urine		AAS		Not given	4 ug/l	BLOOD; URINE; HAIR; CADMIUM; INTEGUMENT; KIDNEYS; LIVER; METALS	Ullucci, P.A. Hwang, J.Y. 1974
296 Urine		APDC-MIBK AAS	2	a) 3.4 - 12.5 ug/l b) 5.8 - 25.0 ug/l	a) 7.0 ug/l b) 14.5 ug/l	a) 74-year-old woman, 6 different determinations, 9/25/72 - 11/1/73 b) 80-year-old woman, 6 different determinations, 3/15/73 - 2/7/74 Women with Itai-itai disease, in the Ichi River basin Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES	Nogawa, K. Ishizaki, A. Fukushima, M. 1975

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Cadmium
7440-43-9
Cd, [illegible]

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
297 Urine	Ingestion	APDC-MIBK AAS	a) 2468 b) 248	a) 5.0-12.9 ug/l b) 3.0-4.9 ug/l	a) 6.1-11.1 ug/l b) 3.6 ug/l	a) People from villages with Cd in rice 0.19-0.69 ug/g b) Controls Data, including other data in tables, are from earlier study. Japanese, aged over 50 yr, screened in an earlier epidemiological study of Itai-itai disease in the Cd-polluted Kakehashi River Basin (Ishikawa Perfecture. 1976. Tubular proteinuria, suspected patients with kidney disease caused by cadmium exposure, and tubular dysfunctions increased proportionately with increasing levels of Cd in rice and urine. Tubular proteinuria showed an age dependence relationship as well as a dose-response relationship. Contaminated rice CADMIUM; METALS; JAPAN; METAI POISONING; RICE; BIOACCUMULATION; URINE; BLOOD; FOOD CONTAMINATION; HEALTH HAZARDS; DISEASES; KIDNEYS; AGE	Nogawa, K. Ishizaki, A. Kawano, S. 1978

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Cadmium
7440-43-9
Cd, MW 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
298 Urine	Inhalation Ingestion	AAS	a) 40 b) 29 c) 45	a) 0.51-2.25 ug/g creatinine b) 0.25-1.60 ug/g creatinine c) 0.05-0.79 ug/g creatinine	a) 1.06 ug/g creatinine b) 0.76 ug/g creatinine c) 0.23 ug/g creatinine	a) <1 km from Pb smelter b) 2.5 km from Pb smelter c) Rural area (Controls) Samples from children, aged 10-14 yr. living and going to school at various distances from a Pb smelter in Leuven, Belgium. No remarkable socioeconomic differences were found between the groups. Follow-up study 18 months after pollution control measures were implemented at the Pb smelter. All children appeared in good health. Emissions from Pb smelter LEAD; CADMIUM; METALS; SMELTERS; CHILDREN; BLOOD; URINE; ENZYMES; INDUSTRIAL EMISSIONS; COMPARATIVE EVALUATIONS; BELGIUM; AIR POLLUTION	Roels, H.A. Buchet, J.P. Lauwerys, R. Bruaux, P. Claeys-Thoreau, F. Lafontaine, A. van Overschelde, J. Verduyn, G. 1978
299 Urine	Ingestion Inhalation	AAS	a) 2 b) 2	a) 0.5-1 ug/g creatinine b) 0.1-2 ug/g creatinine	a) Not given b) Not given	a) Before Cd exposure b) After Cd exposure Data from other Cd studies also used to derive and test model. Samples from 17 newly employed workers in a Cd battery factory (Sweden). Starting a week before first exposure, samples were collected at weekly to monthly intervals for about a year. Factory air was monitored. Dust in Cd battery factory CADMIUM; METALS; BLOOD; URINE; METABOLISM; KIDNEYS; LIVER; DUST; INDUSTRIAL POLLUTION; SMOKING; BIOACCUMULATION; SWEDEN	Kjellstrom, T. Nordberg, G.F. 1978

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Cadmium
7440-43-9
Cd, At[illegible] 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
300 Urine			a) 44 b) 9 c) 19	a) Not given b) Not given c) Not given	a) 26.4 ug/g of creatinine b) 25.9 ug/g of creatinine c) 4.6 ug/g of creatinine	a) Itai - itai patients b) Inhabitants in Tsushima (polluted area) c) Inhabitants in Kanazawa (nonpolluted area) Female inhabitants over 50 yr in different Cd - polluted areas. Itai-itai patients and suspected patients. Controls from nonpolluted areas. Prevalence of renal effects (glucosuria, proteinuria, aminoaciduria, etc) closely related to Cd concentration in urine CADMIUM; URINE; JAPAN; LAND POLLUTION; DISEASES; PROTEINS; BIOACCUMULATION; POPULATION EXPOSURE; METALS	Nogawa, K. Kobayashi, E. Inaoka, H. Ishizaki, A. 1977
301 Urine	Ingestion	AAS	a) 293 b) 316	a) Not given b) Not given	a) 1.49 ug/g b) 1.63 ug/g	a) Males b) Females Biological half-times (BHT) obtained by observation of accumulation from 0-90 years and calculation by a mathematical model. Autopsy samples from Tokyo accident victims with no known occupational exposure. 7.2 yr CADMIUM; MERCURY; LEAD; METALS; AUTOPSIES; BIOACCUMULATION; AGE; SEX; FOODS; JAPAN	Sugita, M. 1978

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Cadmium
7440-43-9
Cd, AW 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
302 Urine			a) 115 b) 93 c) 12 d) 11	a) <3.5 ug/g creatinine b) 3.5-16.1 ug/g creatinine c) 16.1-23.0 ug/g creatinine d) >23.0 ug/g creatinine	a) Not given b) Not given c) Not given d) Not given	Groups based on percentiles a) To 50th b) To 90th c) To 95th d) Remainder Cd workers, normal renal function. Mean for 231 workers, 6.3 ug/g creatinine, for 78 with renal dysfunction, 13.9 ug/g creatinine. 309 male workers in Cd plants in Belgium. CADMIUM; METALS; KIDNEYS; URINE; LIVER; BELGIUM; OCCUPATIONAL HAZARDS	Roels, H. Bernard, A. Buchet, J.P. Goret, A. Lauwerys, R. Chettle, D.R. Harvey, T.C. Al Haddad, I. 1979
303 Urine	Ingestion	AAS	a) 129 b) 31	a) Not given b) Not given	a) 16.7 ug/g creatinine b) 8.8 ug/g creatinine	a) Japanese women living in a contaminated area b) Control population Contaminated food and water METALS; CADMIUM; JAPAN; BLOOD; URINE	Kjellstrom, T. Shiroishi, K. Ervin, P.M. 1977
304 Urine		AAS	a) 5 b) 5 c) 11	a) 11.2-160.8 ug/l b) 17.0-49.5 ug/l c) 1.0-33.3 ug/l	a) Not given b) Not given c) Not given	a) 1967 b) 1975 c) 1975 Occupationally-exposed workers over 10 yr (a and b) and workers employed <10 yr (c). Cadmium-induced proteinuria was reversible in some workers, but still present in two workers after 10 years. Cadmium-induced anemia was also reversible. Fumes in work area METALS; CADMIUM; BLOOD; URINE; INDUSTRIAL POLLUTION	Tsuchiya, K. 1976

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Cadmium
7440-43-9
Cd, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
305 Urine		APDC-MIBK AAS	a) 156 b) 93	a) 1-31.5 ug/l b) 0.7-12.7 ug/l	a) 7.5 ug/l b) 2 ug/l	Farmers (ages 50-69 yr) living in the Kosaka area of Akita Prefecture, Japan Tubular proteinuria occurred in 7% of the reference group and 14% of the exposed group and increased with age and exposure duration. Food METALS; CADMIUM; URINE; JAPAN	Kojima, S. Naga, T. Kurihara, T. Yamavaki, T. Kjellstrom, T. 1977

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Cadmium
7440-43-9
Cd, Atw 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C (CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
306 Urine		AAS	a) 31 b) 31 c) 27 d) 22 e) 22	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 5.32 ug/g creatinine b) 2.01 ug/g creatinine c) 22.6 ug/g creatinine d) 31.0 ug/g creatinine e) 2.2 ug/g creatinine	a) Women occupationally exposed (mean time 4.08 yr) to 31 ug/cu m (total) and 1.4 ug/cu m (respirable) Cd dust b) Controls (women) c) Men occupationally exposed (mean time 8.6 yr) to 134 ug/cu m (total) and a maximum 88 ug/cu m (respirable) dust d) Men occupationally exposed (mean time 27.8 yr) to 66 ug/cu m (total) and 21 ug/ cu m (respirable) Cd dust e)Controls (men) Workers at an electronic workshop, storage battery factory, and Cd producing plant. The mean ages were 30.5 yr (a), 38.6 yr (c) and 51.5 yr (d). 50% or more were smokers. Workers with >20 yr exposure had significant reductions in several pulmonary ventilatory functions and significant levels of kidney damage (68% showed excessive protein uria). Workers with <20 yr exposure had no significant changes in pulmonary functions, but some showed evidence of kidney damage. Dust in workplace METALS; CADMIUM; INDUSTRIAL POLLUTION; BLOOD; URINE	Lauwerys, R.R. Buchet, J.P. Roels, H.A. Brouwers, J. Stanescu, D. 1974

Calcium
7440-70-2
Ca
AtW 40.08, MP 850 C, BP 1440 C, VP 10 mm at 983 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
307 Blood		AAS	a) 25 b) 50 c) 25 d) 50	a) Not given b) Not given c) Not given d) Not given	a) 5.40 ug/100 ml b) 6.13 ug/100 ml c) 5.21 ug/100 ml d) 6.01 ug/100 ml	a) Maternal blood, birth weight < 2500 g b) Controls, birth weights > 2500 g c) Cord blood, birth weights < 2500 g d) Controls, birth weights > 2500 g Significant differences at P< 0.001 level. Women giving birth in Newark, N.J. Test and control groups matched for age (19.4 and 19.8 years), weights, smoking habits, ethnicity (84% black, 16% Hispanic) and socioeconomic status. METALS; COPPER; LEAD; IRON; MAGNESIUM; CALCIUM; BLOOD; INFANTS	Bogden, J.D. Thind, I.S. Louria, D.B. Caterini, H. 1978
308 Blood, serum	Ingestion	AAS	8	a) 10.34-11.11 mg/100 ml b) 10.13-10.61 mg/100 ml	a) 10.66 mg/100 ml b) 10.31 mg/100 ml	a) Control diet b) High phosphorus diet Significant (P less than 0.01) decrease in Ca with to high-P diet. Introduction of foods containing phosphate additives associated with intestinal distress, mild diarrhea. Enhanced parathyroid activity PHOSPHORUS; CALCIUM; MINERALS; DIETS; FOODS; FOOD ADDITIVES; BLOOD SERUM; URINE; NUTRITIONAL DISORDERS; PARATHYROID DYSFUNCTION; ADENOSINE MONOPHOSPHATE; ILLINOIS	Bell, R.R. Draper, H.H. Tzeng, D.Y.M. Shin, H.K. Schmidt, G.R. 1977

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
309 Blood, serum			a) 40 b) 35 c) 49	a) Not given b) Not given c) Not given	a) 9.85 mg/dl b) 9.96 mg/dl c) 9.08 mg/dl	a) Controls, blood lead of 29 ug/dl or less b) Blood lead of 30-59 ug/dl c) Blood lead of 60 ug/dl or higher c) is significantly different from a) and b). Samples from Black or Puerto Rican children in the Bronx. Ages ranged from 1 to 6 years. All were seen at Montefiore Hospital and Medical Center between 1971 and 1975. No metabolic bone disease observed. LEAD; METALS; CALCIUM; MINERAL METABOLISM; HYDROXYCHOLECALCIFEROLS; VITAMIN D; NUTRITIONAL DEFICIENCIES; CHILDREN; BLOOD; NEW YORK; BLOOD SERUM	Sorrell, M. Rosen, J.F. Roginsky, M. 1977
310 Blood, serum		AAS	1	8.0 - 10.6 mg/dl	9.1 mg/dl	6 different determinations, 10/7/72 - 9/18/73 74-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES	Nogawa, K. Ishizaki, A. Fukushima, N. 1975

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Calcium
7440-70-2
Ca
AtW 40.08, MP 850 C, BP 1440 C, VP 10 mm at 983 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
311 Bone		NA	a) 5 b) 5 c) 8	a) Not given b) Not given c) Not given	a) 985 g b) 854 g c) 737 g	a) 30-39 yr black women b) 60-69 yr black women c) 70-79 yr black women Measured as Ca^{49} by whole body counting. Twenty-six black women, aged 30-79 yr, all active and in good health. Large muscle mass found in blacks related to increased skeletal mass and, therefore, an increased resistance to fracture. CALCIUM; POTASSIUM; BONES; DISEASES; METALS; AGE; RACIAL STUDIES	Cohn, S.H. Abesamis, C. Yasumura, S. Aloia, J.F. Zanzi, I. Ellis, K.J. 1977
312 Hair		AAS	42	Not given	2944 ug/g	Pubic hair used because of less strenuous treatment prior to study. Values increased after treatment with feminine deodorant spray. Waving lotion and setting gel leached Ca. Samples from healthy, pregnant women in Missouri were collected prior to delivery. ZINC; HAIR; MINERAL METABOLISM; METALS; BIOACCUMULATION; MAGNESIUM; COPPER; CALCIUM; MISSOURI	Hilderbrand, D.C. White, D.H. 1974

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Calcium
7440-70-2
Ca
At# 40.08, MP 850 C, BP 1440 C, VP 10 mm at 983 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
313 Hair		AAS	10	256-4056 ug/g	Not given	Average of 92% Ca extracted with 1% nitric acid Specimens from donors aged 12 to 60 yr and from various geographic exposure areas. SODIUM; MAGNESIUM; POTASSIUM; CALCIUM; MANGANESE; ZINC; NICKEL; COPPER; IRON; CADMIUM; LEAD; HAIR; NUTRITIONAL DEFICIENCIES; BIOACCUMULATION; MINERAL METABOLISM; METALS; TRACE ELEMENTS	Hinners, T.A. Terrill, W.J. Kent, J.L. Colucci, A.V. 1974
314 Skin		AAS	27	a) 125-198 mg/kg dry defatted wt b) 151-190 mg/kg dry defatted wt c) 157-250 mg/kg dry defatted wt d) 171-302 mg/kg dry defatted wt	a) 157 mg/kg dry defatted wt b) 162 mg/kg dry defatted wt c) 210 mg/kg dry defatted wt d) 242 mg/kg dry defatted wt	a) 20-29 yr b) 30-39 yr c) 40-59 yr d) 60 yr and above 6 mm punch biopsies obtained from normal subjects ranging in age from 20-76 yr. SKIN; CALCIUM; PHOSPHORUS; MAGNESIUM; COMPARATIVE EVALUATIONS; METALS; AGE	Subryan, V.L. Solomons, C.C. Gordon, S.G. Heldner, K.H. Reeve, E.B. 1975
315 Teeth		AAS	a) 10 b) 16 c) 12	a) Not given b) Not given c) Not given	a) 26.8 mg/g dentin b) 29.4 mg/g dentin c) 25.1 mg/g dentin	a) 17th Century Hopi b) Contemporary Hopi c) Contemporary California Samples from individual skeletons of Hopi Indians dated 17th century, samples from contemporary Hopi Indian children in Arizona, and samples from children in suburban Northern California. LEAD; STRONTIUM; ZINC; COPPER; MERCURY; CALCIUM; PHOSPHORUS; METALS; TRACE ELEMENTS; MINERALS; TEETH; ARIZONA; CALIFORNIA; DIETS; BIOACCUMULATION; CHILDREN	Kuhnlein, H.V. Calloway, D.H. 1977

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Calcium
7440-70-2
Ca
AtW 40.08, MP 850 C, BP 1440 C, VP 10 mm at 983 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
316 Urine		AAS	8	a) 94-228 mg/24 h b) 85-179 mg/24 h	a) 179 mg/24 h b) 113 mg/24 h	a) Control diet b) High-phosphorus diet Average daily Ca intake was 677 mg during control period and 745 mg during test period. Introduction of foods containing phosphate additives associated with intestinal distress, mild diarrhea. Enhanced parathyroid activity PHOSPHORUS; CALCIUM; MINERALS; DIETS; FOODS; FOOD ADDITIVES; BLOOD SERUM; URINE; NUTRITIONAL DISORDERS; PARATHYROID DYSFUNCTION; ADENOSINE MONOPHOSPHATE; ILLINOIS	Bell, R.R. Draper, H.H. Tzeng, D.Y.M. Shin, H.K. Schmidt, G.R. 1977
317 Urine			a) 3 b) 3 c) 2 d) 2	a) 148-227 mg/24 hr b) 121-285 mg/24 hr c) 89-145 mg/24 hr d) 97-132 mg/24 hr	a) 184 mg/24 hr b) 195.7 mg/24 hr c) 117.0 mg/24 hr d) 114.5 mg/24 hr	a) Low fiber diet b) Low fiber diet plus cellulose c) High fiber diet d) High fiber diet plus cellulose Plasma concentrations also determined Iranian subjects ingested low- or high-fiber diets, plus a supplement of Whatman #3 filter paper dispersed in apple compote. ZINC; CALCIUM; MAGNESIUM; PHOSPHORUS; FECES; URINE; IRAN; DIETS; CELLULOSE; METABOLISM; FIBERS; BLOOD PLASMA; METALS	Ismail-Beigi, F. Reinhold, J.G. Faraji, B. Abadi, F. 1977

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Calcium
7440-70-2
Ca
AtW 40.08, MP 850 C, BP 1440 C, VP 10 mm at 983 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
318 Urine		AAS	2	a) 31 - 199 mg/l b) 18 - 42 mg/l	a) 119.3 mg/l b) 31.3 mg/l	a) 74-year-old woman, 6 different determinations, 9/25/72 - 11/1/73 b) 80-year-old woman, 6 different determinations, 3/15/73 - 2/7/74 Women with Itai-itai disease, in the Ichi River basin Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES	Nogawa, K. Ishizaki, A. Fukushima, M. 1975

Carbon monoxide
630-08-0
C-O
MW 28.01, MP -205 C, BP -191.5 C, VP 10 mm Hg at -215 C, 100 mm Hg at -205.7 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
319 Blood	Inhalation		a) 312 b) 313 c) 103 d) 103	a) 0.12-3.92% b) 1.09-8.30%[SIC] c) 0.19-4.84% d) 0.06-5.69%	a) 0.675 b) 0.66% c) 1.37% d) 1.84%	a) Nonsmokers, mothers b) Newborn of nonsmokers c) Smokers, mothers d) Newborn of smokers Samples from 333 nonsmoking and 109 smoking European women and their newborn. The women lived in or near Brussels, Tournai, Leuven (Louvain), and Antwerp, Belgium representing rural, urban, and industrial areas. Cigarette smoke BLOOD; INFANTS; SMOKING; LEAD; MERCURY; CADMIUM; METALS; CARBON INORGANIC COMPOUNDS; COMPARATIVE EVALUATIONS; RURAL AREAS; URBAN AREAS; INDUSTRIAL AREAS; BELGIUM; PLACENTA; UMBILICAL CORD	Buchet, J.P. Roels, H. Hubermont, G. Lauwerys, R. 1978
320 Blood	Inhalation Ingestion		a) 470 b) 470 c) 445 d) 445 e) 25 f) 25	a) 0.12-4.84% b) 0.06-8.30% c) 0.12-4.84% d) 0.06-8.30% e) 0.51-2.22% f) 0.43-3.33%	a) 0.85% b) 0.95% c) 0.83% d) 0.94% e) 1.09% f) 1.10%	a) All women b) All newborn c) European women d) European newborn e) Afro-Asian women f) Afro-Asian newborn Samples taken at delivery from mothers by venipuncture and from newborn at the umbilical cord. The women lived in areas of Belgium (Antwerp, Brussels, Louvain, Tournai and Vilvoorde) with various degrees of industrialization and urbanization. BLOOD; ADULTS; INFANTS; LEAD; MERCURY; CADMIUM; CARBON INORGANIC COMPOUNDS; METALS; BELGIUM; COMPARATIVE EVALUATIONS; UMBILICAL CORD; PLACENTA	Lauwerys, R. Buchet, J.P. Roels, H. Hubermont, G. 1978

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Carbon monoxide
630-08-0
C-O
MW 28.01, MP -205 C, BP -191.5 C, VP 10 mm Hg at -215 C, 100 mm Hg at -205.7 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
32% Blood	Inhalation		2	18-61% saturation	40% saturation	Deaths, phencyclidine also present in blood Cases investigated by the Maryland Medical Examiner in 1976 and 1977 in which phencyclidine was found: 36 whites, 1 black, 32 males, 5 females, age range, 16 to 42 yr. Causes of death included gunshot wounds, smoke and soot inhalation, drowning, drug intoxication. Smoke and soot DRUGS; ALCOHOLS; DIAZEPAMS; CARBON INORGANIC COMPOUNDS; NARCOTICS; SEDATIVES; BLOOD; URINE; BILE; BRAIN; LIVER; KIDNEYS; DRUG ABUSE; AUTOPSIES; CASE HISTORIES; MARYLAND	Caplan, Y.H. Orloff, K.G. Thompson, B.C. Fisher, R.S. 1979

Carbonate
3812-32-6
C-03
MW 60

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
322 Teeth				c) Not given b) Not given	a) 2.79% dry wt b) 3.50% dry wt	a) Normal b) Periodontal Disease Values are for cementum. Diseased cementum had significantly higher F, lower citrate, and slightly higher carbonate than normal. Teeth from residents of areas with low, optimum, and high levels of natural fluoride. Age groups included < 20 yr, 20-40 yr, and > 40 yr. Teeth extracted because of caries were included in the "normal" group. TEETH; FLUORIDE; ORAL DISEASES; AGE; MINERALS	Stepnick, R.J. Nakata, T.M. Zipkin, I. 1975

Carbonylhemoglobin
9061-29-8
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
323 Blood				Not given	12% or more	19% of autoworkers Autoworkers with high blood Pb levels. Dizziness and headache CADMIUM; NICKEL; MANGANESE; COPPER; CHROMIUM; METALS; OCCUPATIONAL HAZARDS; LEAD; LEVULINIC ACIDS; ENZYMES; HEMOGLOBINS; CARBON INORGANIC COMPOUNDS; AIR POLLUTION; AUTOMOTIVE; INDUSTRIAL PLANTS; BLOOD	Clausen, J. Bastoqi, S.C. 1977b
324 Blood			2	Values as % saturation a) 0.59-1.07 b) 2.88-3.03 c) 1.80-2.09 d) 3.89-5.10 e) 2.48-3.18 f) 6.48-7.07 g) 3.46-4.77	Values as % saturation a) 0.78 b) 2.93 c) 1.96 d) 4.49 e) 2.85 f) 6.76 g) 4.11	a) 0 ml CO administered, 1 hr, values did not alter appreciably with time b) 40 ml CO administered, 1 hr c) 40 ml CO administered, 4 hr d) 70 ml CO administered, 1 hr e) 70 ml CO administered, 4 hr f) 100 ml CO administered, 1 hr g) 100 ml CO administered, 4 hr Range values are mean levels for the individuals CO administered with rebreathing bag and soda lime canister system % carboxyhemoglobin estimated using formula of Dahlstrom More data available. Samples from graduate students. HEMOGLOBINS; BLOOD; EXPERIMENTAL PSYCHOLOGY	Wright, G.R. Shephard, R.J. 1978

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Carbonylhemoglobin
9061-29-4
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
325 Blood		Colorimetry	1	Not applicable	78%	Trimipramine also present. 48 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, H. Holder, A.T. Powell, R. 1979

Cefotaxime (No postings in CHEMLINE).

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
326 Blood, serum	Injection			a) 4.9-15 ug/ml b) Not given c) Not given	a) 9.05 ug/ml b) 49 ug/ml c) 3 ug/ml	a) Patients with normal renal function, 1 hr after 3x500 i.m. of drug b) Patients with renal failure, day 3 of treatment, 0 hr after 2x500 i.v. of drug c) Patients with renal failure, day 1 of treatment, 8 hr after 3x500 i.m. drug. 15 patients infected with multiresistant bacterial stains. 6 patients with renal failure. DRUGS; BLOOD SERUM; ANTIBIOTICS; KIDNEYS	Clumeck, N. Vanhoof, R. Vanlaethem, Y. Butzler, J.P. 1979

Cesium
7440-46-2
Cs
AtW 132.905a, MP 28.5 C, BP 705 C, VP 1 mm Hg at 279 C, 10 mm Hg at 373 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
327 Skin		NR	a) 1 b) 2 c) 6 (Samples)	a) Not applicable b) 0.1-0.2 ug/g dry wt c) 0.006-0.07 ug/g dry wt	a) 0.1 ug/g dry wt b) Not applicable c) 0.041 ug/g dry wt	a) Normal b) Psoriatic uninvolved c) Psoriatic involved BROMINE; CADMIUM; CHROMIUM; MOLYBDENUM; RUBIDIUM; SELENIUM; ARSENIC; GOLD; CESIUM; MERCURY; LANTHANUM; ANTIMONY; SCANDIUM; SAMARIUM; TUNGSTEN; EPIDERMIS; SKIN DISEASES; METALS; TRACE ELEMENTS	Molin, L. Wester, P.O. 1974

Cesium, isotope of mass 137
10045-97-3
Cs
At# 137, MP 28.5 C, BP 705 C, VP 1 mm Hg at 279 C, 10 mm Hg at 373 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
328 Body		Radiometry	10-19	a) 138-174 pCi/g K b) 35-58 pCi/g K c) 18-19 pCi/g K d) 12-17 pCi/g K e) 8-10 pCi/g K	a) Not given b) Not given c) Not given d) Not given e) Not given	a) Year 1964 b) Year 1967 c) Year 1970 d) Year 1973 e) Year 1976 Mean whole body burden (per gram potassium). Approximate content of Cs (in pCi) is 140 times the values given.) Numbers of subjects varied. Adult male residents of Berkshire or Oxfordshire, England. Fall-out METALS; CESIUM; RADIOISOTOPES; RADIATION DOSES	Newton, D. Eagle, M.C. Venn, J.B. 1977
329 Bone		Radiometry	a) 8 b) 3	a) 0.033-0.072 pCi/1g ash b) 0.076-0.106 pCi/1g ash	a) Not given b) Not given	a) Autopsy samples of females b) Autopsy samples of males Highest values in oldest age groups Age groups for females: 0-20, 40-50, 60-70, 70-90 years. For males: 40-50, 50-60, 60-70 years. Fallout from nuclear weapons tests, coal combustion. STRONTIUM-90; CESIUM-137; POLAND; RADIONUCLIDES; AIR POLLUTION; COAL; FALLOUT; ATMOSPHERE; SOILS; ANIMAL POPULATIONS; NUCLEAR WEAPONS; VEGETATION	Gloviak, B. Pacyna, J. 1978

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Cesium, isotope of mass 137
10045-97-?
Cs
AtW 137, MP 28.5 C, BP 705 C, VP 1 mm Hg at 279 C, 10 mm Hg at 372 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
330 Brain		Spectrometry	a) 4 b) 3	a) 0.36-0.60 pCi/1g ash b) 0.37-0.48 pCi/1g ash	a) Not given b) Not given	a) Autopsy samples of females b) Autopsy samples of males Highest values were in oldest age groups Age groups for females: 0-20, 40-50, 60-70, 70-90 years. For males: 40-50, 50-60, 60-70 years. Fallout from nuclear weapons tests, coal combustion. STRONTIUM-90; CESIUM-137; POLAND; RADIONUCLIDES; AIR POLLUTION; COAL; FALLOUT; ATMOSPHERE; SOILS; ANIMAL POPULATIONS; NUCLEAR WEAPONS; VEGETATION	Glowiak, B. Pacyna, J. 1978
331 Gonads		Radiometry	a) 8 b) 3	a) 2.69-3.94 pCi/1g ash b) 2.20-2.90 pCi/1g ash	a) Not given b) Not given	a) Autopsy samples of females b) Autopsy samples of males In females, highest value was in oldest age group In males, highest value was in age group 50-60 yr. Age groups for females: 0-20, 40-50, 60-70, 70-90 years. For males: 40-50, 50-60, 60-70 years. Fallout from nuclear weapons tests, coal combustion. STRONTIUM-90; CESIUM-137; POLAND; RADIONUCLIDES; AIR POLLUTION; COAL; FALLOUT; ATMOSPHERE; SOILS; ANIMAL POPULATIONS; NUCLEAR WEAPONS; VEGETATION	Glowiak, B. Pacyna, J. 1978

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Cesium, isotope of mass 137
10045-97-3
Cs
AtW 137, MP 28.5 C, BP 705 C, VP 1 mm Hg at 279 C, 10 mm Hg at 373 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
332 Heart		Radiometry	a) 4 b) 3	a) 1.34-1.89 pCi/1g ash b) 1.37-1.89 pCi/1g ash	a) Not given b) Not given	a) Autopsy samples of females b) Autopsy samples of males Highest values were in oldest age groups Age groups for females: 0-20, 40-50, 60-70, 70-90 years. For males: 40-50, 50-60, 60-70 years. Fallout from nuclear weapons tests, coal combustion. STRONTIUM-90; CESIUM-137; POLAND; RADIONUCLIDES; AIR POLLUTION; COAL; FALLOUT; ATMOSPHERE; SOILS; ANIMAL POPULATIONS; NUCLEAR WEAPONS; VEGETATION	Glowiak, B. Pacyna, J. 1978
333 Liver		Radiometry	a) 4 b) 3	a) 0.040-0.201 pCi/1g ash b) 0.39-0.49 pCi/1g ash	a) Not given b) Not given	a) Autopsy samples of females b) Autopsy samples of males Highest values were in oldest age groups Age groups for females: 0-20, 40-50, 60-70, 70-90 years. For males: 40-50, 50-60, 60-70 years. Fallout from nuclear weapons tests, coal combustion. STRONTIUM-90; CESIUM-137; POLAND; RADIONUCLIDES; AIR POLLUTION; COAL; FALLOUT; ATMOSPHERE; SOILS; ANIMAL POPULATIONS; NUCLEAR WEAPONS; VEGETATION	Glowiak, B. Pacyna, J. 1978

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Cesium, isotope of mass 137
10045-97-3
Cs
Atw 137, MP 28.5 C, BP 705 C, VP 1 mm Hg at 279 C, 10 mm Hg at 373 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
33% Muscle		Radiometry	a) 4 b) 3	a) 0.010-0.020 pCi/1g ash b) 0.009-0.018 pCi/1g ash	a) Not given b) Not given	a) Autopsy samples of females b) Autopsy samples of males In females, highest values were in oldest age group. In males, highest values were in age group 40-50 yr. Age groups for females: 0-20, 40-50, 60-70, 70-90 years. For males: 40-50, 50-60, 60-70 years. Fallout from nuclear weapons tests, coal combustion. STRONTIUM-90; CESIUM-137; POLAND; RADIONUCLIDES; AIR POLLUTION; COAL; FALLOUT; ATMOSPHERE; SOILS; ANIMAL POPULATIONS; NUCLEAR WEAPONS; VEGETATION	Glowiak, B. Pacyna, J. 1978

Chlordane
12789-03-6
EXACT COMPOSITION UNKNOWN OR UNDETERMINED
MW 409.8, BP 175 C at 2 mm Hg, VP 1X10(E-5) mm Hg at 25 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
335 Blood, serum	Dermal		5	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable	a) 5 ppb b) 10 ppb c) 5 ppb d) < 2 ppb e) < 2 ppb	a) Former pest control operator with exposed left hand b) Current pest control operator c) Current pest control operator d) Farmer e) Control-no known exposure Analysis of hand rinsings showed a recovery of 0.9 ug and 0.6 ug from left and right hands respectively. Skin disorder on left hand after 2 years employment as pest control operator. Pesticide bottles and sprayers PESTICIDES; OCCUPATIONAL HAZARDS; BLOOD SERUM; SKIN; AGRICULTURE; MICHIGAN; BIOACCUMULATION; DET; DDE; DIELDRIN	Kazen, C. Bloomer, A. Welch, B. Oudbier, A. Price, H. 1974

Chlorine
7782-50-5
Cl2
AtW 35.453, MP -101 C, BP -34.05 C, VP 4800 mm Hg at 20 C, 1 mm Hg at -123 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
336 Adipose		CC MA	10	0.47-4.99 ppm	1.77 ppm	Determined as total organic chlorine (ug/g of extractable fat). Autopsy material from Oslo City Hospital. No special selection made with regard to age, sex or occupation. CHLORINATED HYDROCARBONS; LIVER; AUTOPSIES; NORWAY; CHLORINE ORGANIC COMPOUNDS; ADIPOSE TISSUE; POLYCHLORINATED BIPHENYLS; CHLOROBENZENES; DDE	Bjorseth, A. Lunde, G. Dybing, E. 1977
337 Liver		CC MA	10	1.60-2.67 ppm	2.08 ppm	Determined as total organic chlorine (ug/g of extractable fat). Autopsy material from Oslo City Hospital. No special selection made with regard to age, sex or occupation. CHLORINATED HYDROCARBONS; LIVER; AUTOPSIES; NORWAY; CHLORINE ORGANIC COMPOUNDS; DDE; CHLOROBENZENES; POLYCHLORINATED BIPHENYLS; ADIPOSE TISSUE	Bjorseth, A. Lunde, G. Dybing, E. 1977

Cholic acid (8 CI)
Cholan-24-oic acid, 3,7,12-trihydroxy-, (3alpha,5beta,7alpha,12alpha)- (9 CI)
81-25-4
C24-H40-O5

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
3% Bile	Ingestion	GC/MS	5	a) 6.7-22.4% b) <0.1-2.0% c) 1.5-3.8% d) 36.0-48.0% e) 31.5-60.0% f) <0.1% g) <0.1-0.3% h) 0.1-0.5%	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) Chenodeoxycholic acid b) Lithocholic acid c) Ursodeoxycholic acid d) Cholic acid e) Deoxycholic acid f) Isochenic acid g) 7-Keto-lithocholic acid h) 12 Keto-lithocholic acid Biliary bile acid composition during treatment with 15 mg/kg/day chenodeoxycholic acid. Samples from patients with gall stones. DRUGS; BILE; METABOLITES; DRUG THERAPY; MINNESOTA	Hofmann, A.F. Thistle, J.L. Klein, P.D. Szczepanik, P.A. Yu, P.Y.S. 1978

Chromium
7440-47-3
Cr, [illegible]

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
339 Adipose		AAS	3	< 0.01-0.035 ug/g wet wt	Not given	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
340 Adrenal gland		AAS	7	< 0.01-0.3 ug/g wet wt	Not given	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
341 Blood				0.5-5 ug/l	Not given	Values are approximations. Method of analysis not given. CHROMIUM; TIN; VANADIUM; NICKEL; SILICON; BLOOD; URINE; METALS; MINERAL METABOLISM; TRACE ELEMENTS	Mertz, W. 1974

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
342 Blood		ES	20	a) Not given b) Not given	a) Approx 3.4 ng/ml b) Approx 4.0 ng/ml	a) At 16 wk gestation b) At 38 wk gestation Values are estimated from graph. Samples from 20 pregnant women at University of Colorado Medical Center. Subjects were Caucasians, middle or upper socioeconomic level, mean age of 22 yrs. Subjects were chosen on basis of good health and nutrition. No evidence of impaired glucose tolerance. No infants with congenital malformations. ZINC; COPPER; CHROMIUM; MANGANESE; IRON; METALS; MINERALS; PREGNANCY; MINERAL METABOLISM; BLOOD PLASMA; HAIR; TRACE ELEMENTS; COLORADO	Hambidge, K.M. Droegemueller, W. 1974
343 Blood		AAS		a) 0.8-8.4 ug/100 ml b) Not given	a) 4.5 ug/100 ml b) 5.7 ug/100 ml	a) Controls b) Autoworkers Autoworkers with high blood Pb levels. CADMIUM; NICKEL; MANGANESE; COPPER; CHROMIUM; METALS; OCCUPATIONAL HAZARDS; LEAD; LEVULINIC ACIDS; ENZYMES; HEMOGLOBINS; CARBON INORGANIC COMPOUNDS; AIR POLLUTION; AUTOMOTIVE; INDUSTRIAL PLANTS; BLOOD	Clausen, J. Bastogi, S.C. 1977b

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Chromium
7440-47-3
Cr, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
344 Blood		AAS	15	0.016-0.080 ug/g wet wt	0.045 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
345 Blood						Review CHROMIUM; METALS; ADULTS; INFANTS; URINE; HAIR; LUNGS; LIVER; KIDNEYS; PLACENTA; METABOLISM; BIOACCUMULATION; REVIEW	Anon 1974
346 Body	Ingestion	Radiometry	a) 10 b) 1	a) Not given b) Not given	a) 88% b) 95%	a) Cr-51 marker excreted 8-12 d Wide variation in elimination of remaining 12% b) Ileostomy patient, Cr-51 excreted within 24 hr. 10 healthy volunteers aged 21-61 yr, and one patient with an ileostomy were given radioisotopes of Cd and Cr after they had consumed a breakfast containing 22-29 ug Cd. CADMIUM; CHROMIUM; METALS; RADIOISOTOPES; CANADA	McLellan, J.S. Flanagan, P.R. Chamberlain, M.J. Valberg, L.S. 1978

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Chromium
7440-47-3
Cr, MW 51.996, MP 1900 C, BP 2642 C, VP 1 mm Hg at 1616 C, 10 mm Hg at 1845 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
347 Bone		AAS	13	< 0.01-0.16 ug/g wet wt	0.062 ug/g wet wt	Rib samples Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
348 Brain		AAS	a) 19 b) 20	a) < 0.01-0.18 ug/g wet wt b) 0.013-0.18 ug/g wet wt	0.056 ug/g wet wt 0.050 ug/g wet wt	a) Cerebrum b) Cerebellum Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Chromium
7440-47-3
Cr, [illegible], MP 1900 C, BP 2642 C, 92 mm Hg at 1616 C, 10 mm Hg at 1330 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
349 Hair		ES	20	a) Not given b) Not given	a) Approx 0.20 ug/g dry wt b) Approx 0.16 ug/g dry wt	a) At 16 wk gestation b) At 38 wk gestation Values are estimated from graph. Samples from 20 pregnant women at University of Colorado Medical Center. Subjects were Caucasians, middle or upper socioeconomic level, mean age of 22 yrs. Subjects were chosen on basis of good health and nutrition. No evidence of impaired glucose tolerance. No infants with congenital malformations. ZINC; COPPER; CHROMIUM; MANGANESE; IRON; METALS; MINERALS; PREGNANCY; MINERAL METABOLISM; BLOOD PLASMA; HAIR; TRACE ELEMENTS; COLORADO	Hambidge, K.M. Droegemueller, W. 1974
350 Hair		AAS	a) 50 b) 50 c) 9 d) 9	a) 62-541 ng/g b) 30-441 ng/g c) 30-441 ng/g d) 222-731 ng/g	a) 203 ng/g b) 119 ng/g c) 143 ng/g d) 443 ng/g	a) Mothers b) Their newborns c) Newborns d) Newborns in c) at 2 mo of age Study involved 50 women and their newborns who were all born by normal delivery and were clinically well at birth. Results suggest Cr supplied to fetus by homeostatic mechanism regulated by mother's Cr pool, also that intestinal absorption of Cr is faster in children than in adults. HAIR; CHROMIUM; ADULTS; INFANTS; METALS	Ianer, G. Gurson, C.T. 1976

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Chromium
7440-47-3
Cr, AN 51.996, MP 1900 C, BP 2642 C, VP 1 mm Hg at 1616 C, 10 mm Hg at 1890 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
351 Hair						Review CHROMIUM; METALS; ADULTS; INFANTS; URINE; HAIR; LUNGS; LIVER; KIDNEYS; PLACENTA; METABOLISM; BIOACCUMULATION; REVIEW	Anon 1974
352 Heart		AAS	23	0.020-0.36 ug/g wet wt	0.080 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
353 Intestine		AAS	a) 23 b) 25	a) 0.013-0.48 ug/g wet wt b) 0.022-0.83 ug/g wet wt	0.12 ug/g wet wt 0.16 ug/g wet wt	a) Small intestine b) Large intestine Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Chromium
7440-47-3
Cr, [illegible]

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
354 Kidney		AAS	30	0.015-0.22 ug/g wet wt	0.076 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
355 Kidney						Review CHROMIUM; METALS; ADULTS; INFANTS; URINE; HAIR; LUNGS; LIVER; KIDNEYS; PLACENTA; METABOLISM; BIOACCUMULATION; REVIEW	Anon 1974
356 Liver		AAS	29	0.015-0.23 ug/g wet wt	0.066 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Chromium
7440-47-3
CR, Atw 51.996, MP 1900 C, BP 2642 C, VP 1 mm Hg at 1616 C, 10 mm Hg at 1840 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
357 Liver						Review CHROMIUM; METALS; ADULTS; INFANTS; URINE; HAIR; LUNGS; LIVER; KIDNEYS; PLACENTA; METABOLISM; BIOACCUMULATION; REVIEW	Anon 1974
358 Liver		ES	10	Not given	1.38 ug/g	Arithmetic mean Geometric mean=1.04 ug/g Concentrations based on ash weight Samples from ten healthy adult males who were accident victims. METALS; SILVER; ALUMINUM; BARIUM; CADMIUM; COBALT; CHROMIUM; COPPER; IRON; MANGANESE; MOLYBDENUM; NICKEL; LEAD; TIN; STRONTIUM; TITANIUM; ZINC; LIVER	Perry, H.M., Jr. Perry, E.F. Miron, B.B. 1977
359 Lung		MS	98	0.02-26.0 ug/g dry wt	0.35 ug/g dry wt	Mean is geometric. Samples from deceased Cincinnati, OH residents, age range 23-96 years with a median of 66 years, evenly divided between men and women, blacks, and whites. Occupations included foundry workers, machinists, farmers, domestics, homemakers, clerical workers. Deaths were from normal causes. METALS; TRACE ELEMENTS; ALUMINUM; CADMIUM; CHROMIUM; COBALT; COPPER; GERMANIUM; IODINE; LEAD; MAGNESIUM; MANGANESE; MOLYBDENUM; SELENIUM; TITANIUM; VANADIUM; ZINC; AUTOPSIES; LUNGS; LYMPH NODES; URBAN AREAS; OHIO	Sweet, D.V. Crouse, W.E. Crable, J.V. 1978

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Chromium
7440-47-3
Cr, [illegible]

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
360 Lung		AAS	29	0.051-0.81 ug/g wet wt	0.26 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
361 Lung						Review CHROMIUM; METALS; ADULTS; INFANTS; URINE; HAIR; LUNGS; LIVER; KIDNEYS; PLACENTA; METABOLISM; BIOACCUMULATION; REVIEW	Anon 1974
362 Lymph node		MS	98	0.17-72 ug/g dry wt	2.96 ug/g dry wt	Mean is geometric. Samples from deceased Cincinnati, OH residents, age range 23-96 years with a median of 66 years, evenly divided between men and women, blacks, and whites. Occupations included foundry workers, machinists, farmers, domestics, homemakers, clerical workers. Deaths were from normal causes. METALS; TRACE ELEMENTS; ALUMINUM; CADMIUM; CHROMIUM; COBALT; COPPER; GERMANIUM; IODINE; LEAD; MAGNESIUM; MANGANESE; MOLYBDENUM; SELENIUM; TITANIUM; VANADIUM; ZINC; AUTOPSIES; LUNGS; LYMPH NODES; URBAN AREAS; OHIO	Sweet, D.V. Crouse, W.E. Crable, J.V. 1978

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Chromium
7440-47-3
Cr, AtWt 51.996, MP 1900 C, BP 2642 C, VP 1 mm Hg at 1616 C, 10 mm Hg at 1840 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
363 Muscle		AAS	21	0.015-0.37 ug/g wet wt	0.10 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
364 Ovary		AAS	3	< 0.01-0.040 ug/g wet wt	Not given	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Chromium
7440-47-3
Cr, [illegible]

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
365 Pancreas		AAS	21	a) 0.02-0.26 ppm dry wt b) 0.10-0.87 ppm dry wt	a) Not given b) Not given	a) With lipids b) Without lipids Values greater on a lipid-free basis. Average Cr on a dry basis is approximately 0.1 ppm. Levels related to disease and age. Average Cr in dry lipid-free samples from diabetics lower than in nondiabetics. Autopsy material CHROMIUM; TRACE ELEMENTS; PANCREAS; DISEASES; DIABETES; DISACCHARIDES; NEOPLASMS; AGE; METALS; FOODS; AUTOPSIES	Chao, S.S. Kanabrocki, E.L. Moore, C.E. Oester, Y.T. Greco, J. von Smolinski, A. 1976
366 Pancreas		AAS	28	0.01-0.30 ug/g wet wt	0.10 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Chromium
7440-47-3
Cr, MW 51.996, MP 1900 C, BP 2642 C, 92.1 mm Hg at 1616 C, 10 mm Hg at 1840 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
367 Placenta			58	a) Not given b) Not given c) Not given d) Not given	a) 0.145 ug/g wet wt b) 0.043 ug/g wet wt c) 0.313 ug/g wet wt d) 0.036 ug/g wet wt	a) All cities b) Augusta, GA c) Birmingham, AL d) Charlotte, NC Metal levels correlated with enzyme activities. Samples from 58 normal placentas collected immediately at delivery in hospitals in Charlotte, NC, Birmingham, AL and Augusta, GA. PLACENTA; MANGANESE; BARIUM; CADMIUM; SELENIUM; MERCURY; TIN; VANADIUM; BERYLLIUM; SILVER; COBALT; NICKEL; CHROMIUM; COPPER; ZINC; LEAD; IRON; PLATINUM; BORON; ARSENIC; LITHIUM; METALS; TRACE ELEMENTS; ENZYMES; NORTH CAROLINA; ALABAMA; GEORGIA	Karp, W.B. Robertson, A.F. 1977
368 Skin		NA	a) 2 b) 3 c) 3 (Samples)	a) 0.07-1.7 ug/g dry wt b) 0.5-1.5 ug/g dry wt c) 0.1-3.2 ug/g dry wt	a) 1.20 ug/g dry wt b) 0.97 ug/g dry wt c) 1.43 ug/g dry wt	a) Normal b) Psoriatic uninvolved c) Psoriatic involved Specimens from trunk region of 14 males in Sweden. 9 were suffering from psoriasis (ages 0-59 yr, mean 46), and 5 had no evidence of skin disorder (ages 19-57 yr, mean 33) BROMINE; CADMIUM; CHROMIUM; MOLYBDENUM; RUBIDIUM; SELENIUM; ARSENIC; GOLD; CESIUM; MERCURY; LANTHANUM; ANTIMONY; SCANDIUM; SAMARIUM; TUNGSTEN; EPIDERMIS; SKIN DISEASES; METALS; TRACE ELEMENTS	Holm, L. Wester, P.O. 1974

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Chromium
7440-47-3
Cr, At% 51.996, MP 1900 C, BP 2642 C, VP 1 mm Hg at 1676 C, 10 mm Hg at 1940 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
369 Skin		AAS	19	0.015-0.25 ug/g wet wt	0.095 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
370 Spleen		AAS	8	< 0.01-0.020 ug/g wet wt	Not given	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Chromium
7440-47-3
Cr, AW 51.996, MP 1900 C, BP 2642 C, VP 1 mm Hg at 1615 C, 10 mm Hg at 1860 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
371 Testicle		AAS	5	< 0.01-0.040 ug/g wet wt	Not given	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
372 Trachea		AAS	13	0.025-0.15 ug/g wet wt	0.090 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
373 Urine				5-10 ug/l	Not given	Values are approximations. Method of analysis not given. CHROMIUM; TIN; VANADIUM; NICKEL; SILICON; BLOOD; URINE; METALS; MINERAL METABOLISM; TRACE ELEMENTS	Hertz, W. 1974

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Chromium
7440-47-3
Cr, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
374 Urine	Ingestion	AAS	9	7.2-11.9 ng/ml	9.4 ng/ml	Nine young and nulliparous university women, 18-21 yr Food CHROMIUM; METALS; URINE; FOODS; MARYLAND	Hitman, F.W. Wolf, W.R. Kelsay, J.L. Prather, E.S. 1975
375 Urine		NA		0.026-0.026 mg/l	0.026 mg/l	Reference sample - "normal" freeze-dried URINE; TRACE ELEMENTS; METALS; SELENIUM; COPPER; ARSENIC; NICKEL; CHROMIUM; COMPARATIVE EVALUATIONS	Gills, T.E. McCleadon, L.T. Haienthal, E.J. Becker, D.A. Durst, R.A. LaFleur, P.D. 1974
376 Urine						Review CHROMIUM; METALS; ADULTS; INFANTS; URINE; HAIR; LUNGS; LIVER; KIDNEYS; PLACENTA; METABOLISM; BIOACCUMULATION; REVIEW	Anon 1974

Citric acid, ion(3-) (8 CI)
1,2,3-Propanetricarboxylic acid, 2-hydroxy-, ion(3-) (9 CI)
126-44-3
C6-H5-O7
MW 189

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
377 Teeth				a) Not given b) Not given	a) 0.86% dry wt b) 0.73% dry wt	a) Normal b) Periodontal Disease Values are for cementum. Diseased cementum had significantly higher F, lower citrate, and slightly higher carbonate than normal. Teeth from residents of areas with low, optimum, and high levels of natural fluoride. Age and groups included < 20 yr, 20-40 yr, and > 40 yr. Teeth extracted because of caries were included in the "normal" group. TEETH; FLUORIDE; ORAL DISEASES; AGE; MINERALS	Stepnick, R.J. Nakata, T.M. Zipkin, I. 1975

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
378 Kidney		AAS	16	0.01-0.035 ug/g wet wt	0.015 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
379 Liver		AAS	29	0.013-0.062 ug/g wet wt	0.028 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Cobalt
7440-48-4
Co, AtP 53.9332, MP 1493 C, BP 3100 C, VP 1 mm Hg at 1910 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
380 Liver		ES	10	Not given	8.58 ug/g	Arithmetric mean Geometric mean=7.30 ug/g Concentrations based on ash weight Samples from ten healthy adult males who were accident victims. METALS; SILVER; ALUMINUM; BARIUM; CADMIUM; COBALT; CHROMIUM; COPPER; IRON; MANGANESE; MOLYBDENUM; NICKEL; LEAD; TIN; STRONTIUM; TITANIUM; ZINC; LIVER	Perry, H.M., Jr. Perry, E.F. Hixon, B.B. 1977
381 Lung		MS	98	0.005-4.2 ug/g dry wt	0.053 ug/g dry wt	Mean is geometric. Samples from deceased Cincinnati, OH residents, age range 23-96 years with a median of 66 years, evenly divided between men and women, blacks, and whites. Occupations included foundry workers, machinists, farmers, domestics, homemakers, clerical workers. Deaths were from normal causes. METALS; TRACE ELEMENTS; ALUMINUM; CADMIUM; CHROMIUM; COBALT; COPPER; GERMANIUM; IODINE; LEAD; MAGNESIUM; MANGANESE; MOLYBDENUM; SELENIUM; TITANIUM; VANADIUM; ZINC; AUTOPSIES; LUNGS; LYMPH NODES; URBAN AREAS; OHIO	Sweet, D.V. Crouse, W.E. Crable, J.V. 1978
382 Lung		Spectroscopy	26	1.3-9.1 ug/g dry wt	1.9 ug/g dry wt	None detected in 13 of the samples. Tissues from deceased West Virginia bituminous coal miners. METALS; MINERALS; BERYLLIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; NICKEL; TITANIUM; VANADIUM; ZINC; LUNGS; COAL; SILICA MATERIALS; WEST VIRGINIA; AUTOPSIES; MINING	Crable, J.V. Keenan, R.G. Kinser, R.E. Smallwood, A.W. Mauer, P.A. 1968

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
383 Lymph node		MS	98	0.004-8.6 ug/g dry wt	0.05 ug/g dry wt	Mean is geometric. Samples from deceased Cincinnati, OH residents, age range 23-96 years with a median of 66 years, evenly divided between men and women, blacks, and whites. Occupations included foundry workers, machinists, farmers, domestics, homemakers, clerical workers. Deaths were from normal causes. METALS; TRACE ELEMENTS; ALUMINUM; CADMIUM; CHROMIUM; COBALT; COPPER; GERMANIUM; IODINE; LEAD; MAGNESIUM; MANGANESE; MOLYBDENUM; SELENIUM; TITANIUM; VANADIUM; ZINC; AUTOPSIES; LUNGS; LYMPH NODES; URBAN AREAS; OHIO	Sweet, D.V. Crouse, W.E. Crable, J.V. 1978
384 Placenta			58	0	0	No Co found. Samples from 58 normal placentas collected immediately at delivery in hospitals in Charlotte, NC, Birmingham, AL and Augusta, GA. PLACENTA; MANGANESE; BARIUM; CADMIUM; SELENIUM; MERCURY; TIN; VANADIUM; BERYLLIUM; SILVER; COBALT; NICKEL; CHROMIUM; COPPER; ZINC; LEAD; IRON; PLATINUM; BORON; ARSENIC; LITHIUM; METALS; TRACE ELEMENTS; ENZYMES; NORTH CAROLINA; ALABAMA; GEORGIA	Karp, W.B. Robertson, A.F. 1977

Colchicine (8 CI)
Acetamide, N-(5,6,7,9-tetrahydro-1,2,3,10-tetramethoxy-9-oxobenzo(a)heptalen-7-yl), (S)- (9 CI)
64-86-8
C22-H25-N-O6
MW 399.43, MP 142-150 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
385 Blood, plasma	Injection	RIA	7	a) 12-2000 ng/ml b) 4.4-19.6 ng/ml c) 0.46-2.6 ng/ml	a) Not given b) Not given c) Not given	a) 5 min b) 120 min c) 24 hr Levels following 2-mg dose. Adult males (45-66 yr) 2 with history of gout. 58 min DRUGS; URINE; BLOOD PLASMA; MEASUREMENT METHODS	Ertel, N.H. Nittler, J.C. Akgun, S. Wallace, S.L. 1976
386 Urine	Injection	RIA	3	128-720 ug	Not given	Levels in first 24 hr after 2 mg dose. Adult males (45-66 yr), 2 with history of gout. DRUGS; URINE; BLOOD PLASMA; MEASUREMENT METHODS	Ertel, N.H. Nittler, J.C. Akgun, S. Wallace, S.L. 1976

Copper
7440-50-8
Cu, [illegible]

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
387 Adipose		AAS	3	0.24-0.28 ug/g wet wt	Not given	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
388 Adrenal gland		AAS	24	1.8-4.4 ug/g wet wt	2.1 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
389 Blood		ASV	a) 85 b) 90	a) 31-281 ug/100 ml b) 43-259 ug/100 ml	a) 100 ug/100 ml b) 99 ug/100 ml	a) Ann Arbor populations b) Yanomamo population 100 blood donors, 18-58 yr old, from Ann Arbor, Michigan. 137 Yanomamo Indians from Venezuela. BLOOD; URINE; HAIR; VENEZUELA; MERCURY; CADMIUM; LEAD; COPPER; METALS; MICHIGAN	Hecker, L.H. Allen, H.E. Dinman, B.D. Beel, J.V. 1974

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Copper
7440-50-8
Cu, mp 1083 C, bp 2595 C, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
390 Blood		AAS	a) 25 b) 50 c) 25 d) 50	a) Not given b) Not given c) Not given d) Not given	a) 174 ug/100 ml b) 168 ug/100 ml c) 84 ug/100 ml d) 80 ug/100 ml	a) Maternal blood, birth weight, < 2500 g b) Controls, birth weights > 2500 g c) Cord blood, birth weights < 2500 g d) Controls, birth weights > 2500 g Differences not significant at P< 0.05 level. Women giving birth in Newark, N.J. Test and control groups matched for age (19.4 and 19.8 years), weights, smoking habits, ethnicity (84% black, 16% Hispanic) and socioeconomic status. METALS; COPPER; LEAD; IRON; MAGNESIUM; CALCIUM; BLOOD; INFANTS	Bogden, J.D. Thind, I.S. Louria, D.B. Caterini, H. 1978
391 Blood		AAS	26	0.79-1.7 ug/g wet wt	1.1 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Copper
7440-50-8
Cu, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
392 Blood, plasma		ES	20	a) Not given b) Not given c) Not given d) Not given	a) 162.4 ug/100 ml b) 192.7 ug/100 ml c) 91.6 ug/100 ml d) 221.4 ug/100 ml	a) At 16 wk gestation b) At 38 wk gestation c) Male controls d) Females taking oral contraceptives Other data available. Samples from 20 pregnant women at University of Colorado Medical Center. Subjects were Caucasians, middle or upper socioeconomic level, mean age of 22 yrs. Subjects were chosen on basis of good health and nutrition. No evidence of impaired glucose tolerance. No infants with congenital malformations. ZINC; COPPER; CHROMIUM; MANGANESE; IRON; METALS; MINERALS; PREGNANCY; MINERAL METABOLISM; BLOOD PLASMA; HAIR; TRACE ELEMENTS; COLORADO	Hambidge, K.M. Droegemueller, W. 1974
393 Blood, plasma		AAS	a) 7 b) 7	A) Not given b) Not given	a) 16.5 umoles/l b) 11.2 umoles/l	a) Peak level, at start of Zn intake, healthy adults given 0.69 moles Zn per day b) 12 wks after start of Zn intake, healthy adults given 0.69 moles Zn per day ZINC; COPPER; METALS; TRACE ELEMENTS; BLOOD; BLOOD PLASMA	Abdulla, M. 1979

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Copper
7440-50-8
Cu, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
394 Blood, serum		AAS	a) 19 b) 25	a) Not given b) Not given	a) 167 ug/100 ml b) 108 ug/100 ml	a) Persons with histories of sarcomas b) Controls Samples from 19 sarcoma patients, 12 with osteosarcomas at various stages and controls representing the normal population in the San Francisco Bay region. Ages in the study group ranged from 9 to 67 years. COPPER; ZINC; BLOOD; SARCOMAS; OSTEOSARCOMAS; METALS; BLOOD SERUM	Fisher, G.L. Byers, V.S. Shifrine, M. Levin, A.S. 1976
395 Blood, serum		AAS		Not given	1.25 ug/ml	10 aliquots of sample measured. ZINC; METALS; BLOOD SERUM; METALLOPROTEINS; LIVER; MEASUREMENT METHODS; COPPER; CADMIUM	Falchuk, K.H. Peterson, M. Vallee, B.L. 1974
396 Blood, serum		AAS	19, 25 Controls	a) Not given b) Not given c) Not given	a) 167 ug/100 ml b) 115 ug/100 ml c) 108 ug/100 ml	a) Sarcoma patients b) Sarcoma patients, amputated (clinically tumor-free) c) Normal controls Samples from 19 sarcoma patients (10 with bone involvement). Twelve of the bone tumors were osteosarcomas. Three were giant-cell sarcomas of bone. BLOOD SERUM; COPPER; ZINC; ENZYMES; NEOPLASMS; OSTEOSARCOMAS; SARCOMAS; METALS; CALIFORNIA	Fisher, G.L. Shifrine, M. 1977

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Copper
7440-50-8
Cu, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
397 Blood, serum		AAS	27	a) Not given b) Not given c) Not given d) Not given	a) 196 ug/100 ml b) 270 ug/100 ml c) 203 ug/100 ml d) 348 ug/100 ml	a) Males b) Females c) Nonpregnant women d) Women taking oral contraceptives Volunteers were 11 male and 16 female residents of Tucson, AZ, ages from 16-84 years. HAIR; IRON; MAGNESIUM; COPPER; ZINC; BLOOD SERUM; ORAL CONTRACEPTIVES; DIETS; TRACE ELEMENTS; AGE; METALS; ARIZONA	Deeming, S.B. Weber, C.W. 1978
398 Blood, serum		NA	a) 16 b) 46	a) Not given b) Not given	a) 1.23 ug/l b) 1.07 ug/l	a) Patients with acute myocardial infarction b) Controls 62 persons in Belgium: 45 hospital patients (29 free of obvious medical disease, 16 with acute myocardial infarction), and 17 receiving employment physicals. MANGANESE; HEART DISEASES; BELGIUM; COPPER; ZINC; METALS; BLOOD SERUM	Versieck, J. Barbier, F. Speecke, A. Hoste, J. 1975

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Copper
7440-50-8
Cu, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
399 Blood, serum		Colorimetry	a) 80 b) 34	a) 65-165 gamma % b) 128-330 gamma % c) 80-256 gamma %	a) Not given; b) Not given c) Not given	a) Controls b) Patients with bronchial carcinoma c) Patients with other malignancies. Cu high in 82% of patients with bronchial carcinoma. Values for b) and c) estimated from figures. Patients at the Central Institute for Tumors and Allied Diseases, 55 women and 70 men between the ages of 21-78 years. Thirty-four patients with bronchial carcinoma, 35 gastric carcinoma, 31 breast carcinoma and 25 melanoma. Eighty blood donors as controls. BLOOD SERUM; CARCINOMAS; COPPER; NEOPLASMS; STOMACH; MELANOMAS; BREAST; IRRADIATION; METALS; YUGOSLAVIA	Kolaric, K. Roguljic, A. Fuss, V. 1975
400 Blood, serum		AAS	a) 15 b) 20 c) 6 d) 9	a) Not given b) Not given c) Not given d) Not given	a) 21.0 umol/l b) 25.1 umol/l c) 23.4 umol/l d) 23.1 umol/l	a) Normal subjects b) Patients with esophageal cancer c) Patients with other cancers d) Patient with non-neoplastic disorders Chinese men, aged 45 to 75 yrs. ZINC; COPPER; TRACE ELEMENTS; METALS; BLOOD; BLOOD SERUM; HAIR; ESOPHAGUS; NEOPLASMS; CHINA	Lin, H.J. Chan, W.C. Fong, Y.Y. Newberne, P.M. 1977

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Copper
7440-50-8
Cu, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
401 Blood, whole		AAS	1933	48-176 ug/dl	94.0 ug/dl	Race, residence and smoking effects were significant: urban greater than suburban or outstate, blacks greater than whites, smokers greater than non-smokers. Author Comment: no complete trace metal exposure data for stated areas of residence. Military recruits from Chicago, Illinois and adjacent areas in Illinois and Indiana inducted between June 29 and July 10, 1969 BLOOD; CADMIUM; COPPER; LEAD; ZINC; METALS; AGE; SMOKING; TOBACCOS; DIETS; ILLINOIS; INDIANA; RACIAL STUDIES	Creason, J.P. Hamner, D.I. Colucci, A.V. Priester, L. Davis, J. 1976
402 Blood, whole		AAS		a) 45-162 ug/100 ml b) Not given	a) 83 ug/100 ml b) 82 ug/100 ml	a) Controls b) Autoworkers Autoworkers with high blood Pb levels. CADMIUM; NICKEL; MANGANESE; COPPER; CHROMIUM; METALS; OCCUPATIONAL HAZARDS; LEAD; LEVULINIC ACIDS; ENZYMES; HEMOGLOBINS; CARBON INORGANIC COMPOUNDS; AIR POLLUTION; AUTOMOTIVE; INDUSTRIAL PLANTS; BLOOD	Clausen, J. Pastogi, S.C. 1977b
403 Blood, whole		AAS	12	0.04-0.24 mg	0.11 mg	Values are for menstrual blood per menstrual period. 12 adolescent girls, mean age 13.6 yr. ZINC; MAGNESIUM; COPPER; IRON; ADOLESCENTS; MENSTRUATION; METALS; TRACE ELEMENTS	Greger, J.L. Buckley, S. 1977

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Copper
7440-50-8
Cu, mp 63.546, BP 1083 C, BP 2595 C, VP 1 mm Hg at 1628 C, 10 mm Hg at 1870 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
404 Bone		AAS	8	0.23-0.79 ug/g wet wt	0.52 ug/g wet wt	Rib samples Samples from 30 cadavers in central Japan, mean age of 39 years, extent of metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
405 Brain		AAS	a) 20 b) 17	a) 2.9-8.8 ug/g wet wt b) 2.7-8.0 ug/g wet wt	a) 5.1 ug/g wet wt b) 6.2 ug/g wet wt	a) Cerebrum b) Cerebellum Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
406 Hair		AAS	27	a) Not given b) Not given c) Not given d) Not given	a) 23 ppm b) 47 ppm c) 70 ppm d) 34 ppm	a) Males b) Females c) Nonpregnant women d) Women taking oral contraceptives Volunteers were 11 male and 16 female residents of Tucson, Az, ages from 16-84 years. HAIR; IRON; MAGNESIUM; COPPER; ZINC; BLOOD SERUM; ORAL CONTRACEPTIVES; DIETS; TRACE ELEMENTS; AGE; METALS; ARIZONA	Deeming, S.B. Weber, C.W. 1978
407 Hair		AAS	42	Not given	1 ug/g	Pubic hair used because of less strenuous treatment prior to study. Cu was lowered by hair-tonic treatment. Samples from healthy, pregnant women in Missouri were collected prior to delivery. ZINC; HAIR; MINERAL METABOLISM; METALS; BIOACCUMULATION; MAGNESIUM; COPPER; CALCIUM; MISSOURI	Hilderbrand, D.C. White, D.H. 1974
408 Hair		AAS	10	9.4-31.0 ug/g	Not given	Average of 33% Ca extracted with 1% nitric acid Specimens from donors aged 12 to 60 yr and from various geographic exposure areas. SODIUM; MAGNESIUM; POTASSIUM; CALCIUM; MANGANESE; ZINC; NICKEL; COPPER; IRON; CADMIUM; LEAD; HAIR; NUTRITIONAL DEFICIENCIES; BIOACCUMULATION; MINERAL METABOLISM; METALS; TRACE ELEMENTS	Hinners, T.A. Terrill, W.J. Kent, J.L. Colucci, A.V. 1974

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Copper
7440-50-8
Cu, AtW 63.546, MP 1083 C, BP 2595 C, 72.1 mm Hg at 1628 C, 10 mm Hg at 1876 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
409 Hair		AAS	133	a) 5-32 ppm b) 2-14 ppm c) 1-37 ppm d) 9-19 ppm e) not given f) Not given	a) 12 ppm b) 8 ppm c) 12 ppm d) 11 ppm e) 9.9 ppm f) 17.9 ppm	a) Young women (Bushman) b) Lactating women (Bushman) c) Postmenopausal women (Bushman) d) Men (Bushman) e) Bantu women, lactating f) Cincinnati women, nonlactating Kung Bushmen inhabiting the northwestern region of the Kalahari desert in Botswana. Compared with Bantu population from Baragwanath Hospital, Johannesburg, Republic of South Africa, and inner-city mothers from Cincinnati. HAIR; IRON; TRACE ELEMENTS; ZINC; DIETS; COPPER; PREGNANCY; BLOOD SERUM; LACTATION; METALS; SOUTH AFRICA; OHIO	Baumslag, N. Petering, H.G. 1976
410 Hair		ES	20	a) Not given b) Not given	a) Approx 12.0 ug/g dry wt b) Approx 11.0 ug/g dry wt	a) At 16 wk gestation b) At 38 wk gestation Values are estimated from graph. Samples from 20 pregnant women at University of Colorado Medical Center. Subjects were Caucasians, middle or upper socioeconomic level, mean age of 22 yrs. Subjects were chosen on basis of good health and nutrition. No evidence of impaired glucose tolerance. No infants with congenital malformations. ZINC; COPPER; CHROMIUM; MANGANESE; IRON; METALS; MINERALS; PREGNANCY; MINERAL METABOLISM; BLOOD PLASMA; HAIR; TRACE ELEMENTS; COLORADO	Hambidge, K.M. Droegemueller, W. 1974

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
#11 Hair		AAS	a) 50 b) 51 c) 37	a) Not given b) Not given c) Not given	a) 17.9 ug/g b) 13.0 ug/g c) 10.9 ug/g	a) Maternal scalp hair b) Maternal pubic hair c) Neonatal scalp hair As age of mother increased, Cu levels in infants' hair decreased. Hair samples from patients at Cincinnati General Hospital, 68% black, 32% white. Mean age was 22.5 yr. Mean parity of the group was 2.6. HAIR; TRACE ELEMENTS; NEWBORN; METALS; ZINC; COPPER; IRON; LEAD; PLACENTA	Baumslag, N. Yeager, D. Levin, L. Petering, H.G. 1974
#12 Hair			1	Not applicable	466 mg/kg	After swimming repeatedly in pool with high copper concentration, hair turned green. Sample from 6 yr old boy COPPER; METALS; HAIR	Lampe, B.M. Henderson, A.L. Hansen, G.H. 1977
#13 Hair		AAS	a) 21 b) 20	a) 12-46.1 ppm b) 6.5-14.9 ppm	a) 22.5 ppm b) 10.85 ppm	a) Rural Irish children, close to zinc and copper mine b) Urban Irish children, controls 21 children (18 male, 3 female, aged 5-12 yr) whose school was close to an open-cast mine in county Tipperary, and 20 Cork City children (18 male, 2 female, same age group). ZINC; MERCURY; ARSENIC; LEAD; COPPER; METALS; CHILDREN; HAIR; UNITED KINGDOM; INDUSTRIAL POLLUTION	Corridan, J.P. 1974

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Copper
7440-50-8
Cu, At# 63.546, MP 1083 C, BP 2595 C, VP 1 mm Hg at 1628 C, 10 mm Hg at 1970 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
414 Heart		AAS	29	2.2-4.6 ug/g wet wt	3.3 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
415 Intestine		AAS	a) 26 b) 28	a) 1.3-3.2 ug/g wet wt b) 1.0-2.6 ug/g wet wt	a) 2.1 ug/g wet wt b) 1.7 ug/g wet wt	a) Small intestine b) Large intestine Samples from 30 cadavers in central Japan, mean age of 39 years, extent of metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Copper
7440-50-8
Cu, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
416 Kidney		AAS	33	6.7-200 ug/g dry wt	68 ug/g dry wt	Values are for renal cortex High Cu in the storage liquids make the validity of the data questionable. Samples of 33 19th Century kidneys preserved at Uppsala and Lund Universities. CADMIUM; COPPER; ZINC; METALS; TRACE ELEMENTS; KIDNEYS; POPULATION EXPOSURE; SWEDEN	Flinder, C-G. Kjellstrom, T. 1977
417 Kidney		AAS	29	1.8-3.4 ug/g wet wt	2.6 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
418 Liver		AAS		Not given	1550 ug/g	Value is for metallothioneins. ZINC; METALS; BLOOD SERUM; METALLOPROTEINS; LIVER; MEASUREMENT METHODS; COPPER; CADMIUM	Falchuk, K.H. Evenson, M. Vallee, B.L. 1974

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Copper
7440-50-8
Cu, AT# 63.546, MP 1083 C, BP 2595 C, VP 1 mm Hg at 1628 C, 10 mm Hg at 1879 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
419 Liver		AAS	35, 17 controls	a) 3.5-8.9 ug/g wet wt b) 198-434 ug/g wet wt c) 27.5-46.9 ug/g wet wt d) 1.8-3.4 ug/g wet wt	a) 5.8 ug/g wet wt b) 242 ug/g wet wt c) 35 ug/g wet wt d) 2.8 ug/g wet wt	a) Control b) Primary biliary cirrhosis c) Acute hepatitis d) Cirrhosis, necrosis, hepatitis, metastases Normal livers were obtained from 9 persons who died in accidents, 5 who died of myocardial infarction, 2 from aortic rupture, and one from subarachnoid hemorrhage. Hepatic tissue was collected from 35 patients who had a variety of liver diseases. LIVER; BILE; COPPER; LIVER DISEASES; CIRRHOSIS; METALS	Owen, C.A., Jr. Dickson, E.R. Goldstein, N.P. Baggenstoss, A.H. McCall, J.T. 1977
420 Liver		NA	a) 6 b) 35 c) 17 d) 8 e) 8	a) < 0.9 mmol/kg b) 0.52-22.03 mmol/kg c) 1.92-22.52 mmol/kg d) 0.49-2.88 mmol/kg e) 0.38-4.69 mmol/kg	a) Not given b) Not given c) Not given d) Not given e) Not given	a) Control b) Patients with primary biliary cirrhosis c) Patients with Wilson's disease d) Patients with HBsAg positive chronic active hepatitis e) Patients with HBsAg negative chronic active hepatitis Levels compared with stainability by rubeanic acid, rhodanine and orcein. Patients with chronic liver disease (London, England). COPPER; LIVER; DISEASES; MEASUREMENT METHODS	Jain, S. Scheuer, P.J. Archer, B. Newman, S.P. Sherlock, S. 1978

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Copper
7440-50-8
Cu, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
421 Liver		AAS	30	2.1-23 ug/g wet wt	9.9 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
422 Liver		ES	10	Not given	1070 ug/g	Arithmetic mean Geometric mean=865 ug/g Concentrations based on ash weight Samples from ten healthy adult males who were accident victims. METALS; SILVER; ALUMINUM; BARIUM; CADMIUM; COBALT; CHROMIUM; COPPER; IRON; MANGANESE; MOLYBDENUM; NICKEL; LEAD; TIN; STRONTIUM; TITANIUM; ZINC; LIVER	Perry, H.M., Jr. Perry, E.F. Hixon, B.B. 1977

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Copper
7440-50-8
Cu, mp 1083 C, bp 2595 C, vp 1 mm Hg at 1628 C, 10 mm Hg at 1870 C

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TISSUE	REPOSSESSED BODIES	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
423 Lung		MS	90	0.83-62 ug/g dry wt	8.83 ug/g dry wt	Mean is geometric. Samples from deceased Cincinnati, OH residents, age range 23-96 years with a median of 66 years, evenly divided between men and women, blacks, and whites. Occupations included foundry workers, machinists, farmers, domestics, housemakers, clerical workers. Deaths were from normal causes. METALS; TRACE ELEMENTS; ALUMINUM; CADMIUM; CHROMIUM; COBALT; COPPER; GERMANIUM; IODINE; LEAD; MAGNESIUM; MANGANESE; MOLYBDENUM; SELENIUM; TITANIUM; VANADIUM; ZINC; AUTOPSIES; LUNGS; LYMPH NODES; URBAN AREAS; OHIO	Sweet, D.V. Crouse, W.E. Crable, J.V. 1978
426 Lung		AAS	26	8.4-38.1 ug/g dry wt	9.5 ug/g dry wt	None detected in 10 of the samples. Tissues from deceased West Virginia bituminous coal miners. METALS; MINERALS; BERYLLIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; NICKEL; TITANIUM; VANADIUM; ZINC; LUNGS; COAL; SILICA MATERIALS; WEST VIRGINIA; AUTOPSIES; MINING	Crable, J.V. Keenan, R.G. Kinser, R.E. Smallwood, K.W. Hauer, P.A. 1968

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Copper
7440-50-8
Cu, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
425 Lung		AAS	30	0.87-1.9 ug/g wet wt	1.3 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
426 Lymph node		AS	98	2.1-426 ug/g dry wt	22.4 ug/g dry wt	Mean is geometric. Samples from deceased Cincinnati, OH residents, age range 23-96 years with a median of 66 years, evenly divided between men and women, blacks, and whites. Occupations included foundry workers, machinists, farmers, domestics, housewaters, clerical workers. Deaths were from normal causes. METALS; TRACE ELEMENTS; ALUMINUM; CADMIUM; CHROMIUM; COBALT; COPPER; GERMANIUM; IODINE; LEAD; MAGNESIUM; MANGANESE; MOLYBDENUM; SELENIUM; TITANIUM; VANADIUM; ZINC; AUTOPSIES; LUNGS; LYMPH NODES; URBAN AREAS; OHIO	Sweet, D.V. Crouse, W.E. Crable, J.V. 1978

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Copper
7440-50-8
Cu, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
427 Milk		AAS	50	0.09-0.63 ug/ml	0.24 ug/ml	Analysis of variance indicates that several samples taken over periods of days and weeks are necessary to furnish a reliable estimate of Cu content for an individual. Samples from Pennsylvania mothers. 42 subjects were between the ages of 20 and 30, while 8 were over 30. All subjects had healthy, full-term infants. COPPER; IRON; ZINC; METALS; MINERALS; METABOLISM; LACTATION; DIETS; MILK; NEWBORN; PENNSYLVANIA	Picciano, M.F. Guthrie, H.A. 1976
428 Muscle		AAS	27	0.41-1.7 ug/g wet wt	0.92 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
829 Ovary		AAS	33	0.47-1.7 ug/g wet wt	0.97 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
830 Pancreas		AAS	30	0.83-2.1 ug/g wet wt	1.5 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Copper
7440-50-8
Cu, AW 63.546, MP 1083 C, BP 2595 C, VP 1 mm Hg at 1628 C, 10 mm Hg at 1870 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
431 Placenta			58	a) Not given b) Not given c) Not given d) Not given	a) 1.598 ug/g wet wt b) 1.572 ug/g wet wt c) 1.457 ug/g wet wt d) 1.821 ug/g wet wt	a) All cities b) Augusta, GA c) Birmingham, AL d) Charlotte, NC Metal levels correlated with enzyme activities. Samples from 58 normal placentas collected immediately at delivery in hospitals in Charlotte, NC, Birmingham, AL and Augusta, GA. PLACENTA; MANGANESE; BARIUM; CADMIUM; SELENIUM; MERCURY; TIN; VANADIUM; BERYLLIUM; SILVER; COBALT; NICKEL; CHROMIUM; COPPER; ZINC; LEAD; IRON; PLATINUM; BORON; ARSENIC; LITHIUM; METALS; TRACE ELEMENTS; ENZYMES; NORTH CAROLINA; ALABAMA; GEORGIA	Karp, W.B. Robertson, A.F. 1977
432 Skin		AAS	26	0.27-1.5 ug/g wet wt	0.71 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sueno, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Copper
7440-50-8
Cu, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
433 Spleen		AAS	20	0.83-1.7 ug/g wet wt	1.2 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
436 Teeth		X-ray Spectrometry	a) 10 b) 16 c) 12	a) Not given b) Not given c) Not given	a) 10.1 ug/g dentin b) 22.9 ug/g dentin c) 15.8 ug/g dentin	a) 17th Century Hopi b) Contemporary Hopi c) Contemporary California Samples from individual skeletons of Hopi Indians dated 17th century, samples from contemporary Hopi Indian children in Arizona, and samples from children in suburban Northern California. LEAD; STRONTIUM; ZINC; COPPER; MERCURY; CALCIUM; PHOSPHORUS; METALS; TRACE ELEMENTS; MINERALS; TEETH; ARIZONA; CALIFORNIA; DIETS; BIOACCUMULATION; CHILDREN	Kuhnlein, H.V. Calloway, D.H. 1977

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Copper
7440-50-8
Cu, AtW 63.546, MP 1083 C, BP 2595 C, VP 1 mm Hg at 1639 C, 10 mm Hg at 1870 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
435 Teeth		ASV	a) 8 b) 2	a) 1.3-16.8 ppm b) 2.8-3.8 ppm	a) Not given b) Not given	a) 8 caries-free teeth from Norwegian teenagers b) Two powdered tooth mixtures Eight permanent teeth and two powdered tooth mixtures from Norwegian teenagers. BIOACCUMULATION; TEETH; ADOLESCENTS; NORWAY; METALS; COPPER; LEAD; CADMIUM; ZINC	Oehme, M. Lund, W. Jonsen, J. 1978
436 Teeth		AAS	2300	3.6-39.6 ug/g	Not given	Range of means for samples from 25 Norwegian cities and counties. Because of average loss of 37% due to technique, means should be multiplied by 1.6 to obtain true values. Teeth shed or extracted from 1972 through 1975, plus 38 medieval deciduous teeth. ZINC; COPPER; METALS; TRACE ELEMENTS; TEETH; NORWAY	Fosse, G. Justesen, N.-P.B. 1978
437 Testicle		AAS	11	0.61-1.2 ug/g wet wt	0.94 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Copper
7440-50-8
Cu, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
438 Trachea		AAS	16	0.37-1.2 ug/g wet wt	0.85 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
439 Urine		ASV	47	2-94 ug/l	34 ug/l	Yanomamo Indians Unacculturated population consisted of Yanomamo Indians of southern Venezuela. BLOOD; URINE; HAIR; VENEZUELA; MERCURY; CADMIUM; LEAD; COPPER; METALS; MICHIGAN	Becker, L.H. Allen, H.E. Dinman, B.D. Neel, J.V. 1974

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Copper
7440-50-8
Cu, MW 63.546, MP 1083 C, BP 2595 C, VP 1 mm Hg at 1628 C, 10 mm Hg at 1870 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
840 Urine		AAS	11	a) Not given b) Not given	a) 28 ug/day b) 26 ug/day	a) Losses on diet with 11.32 mg or 11.64 mg Zn daily b) Losses on diet with 14.52 mg or 14.84 mg Zn daily Samples from girls between 12.5 and 14.2 years of age in a metabolic unit of Purdue University. The lower level of zinc was probably not enough to maintain zinc balance in adolescent girls, but the higher level caused increased fecal losses of copper. ZINC; NITROGEN; COPPER; IRON; MANGANESE; URINE; FECES; MINERAL METABOLISM; TRACE ELEMENTS; DIETS; ADOLESCENTS; METALS; INDIANA	Greger, J.L. Zaikis, S.C. Abernathy, R.P. Bennett, O.A. Huffman, J. 1978
841 Urine		NA Polarography		a) 0.028-0.029 mg/l b) 0.026-0.026 mg/l	a) 0.028 mg/l b) 0.026 mg/l	a) By neutron activation analysis b) By polarography Reference samples URINE; TRACE ELEMENTS; METALS; SELENIUM; COPPER; ARSENIC; NICKEL; CHROMIUM; COMPARATIVE EVALUATIONS	Gills, T.E. McClendon, L.T. Maienthal, E.J. Becker, D.A. Durst, R.A. LaFleur, P.D. 1974

Cyanide
57-12-5
C-N

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
402 Blood		ISE	a) 100 b) 1 c) 1 d) 1	a) 0.05-0.08 mg/l b) 0.50-0.65 mg/l c) Not applicable d) Not applicable	a) Not given b) Not given c) 2.4 mg/l d) 0.7 mg/l	a) Random clinical samples b) Patients taking nitroprusside c) Autopsy sample, man who had ingested 30g NaCN d) Autopsy sample, 18 yr old male who died after IV NaCN CASE HISTORIES; MEASUREMENT METHODS; FORENSIC MEDICINE; BLOOD; AUTOPSIES; OCCUPATIONAL HAZARDS	McAnalley, B.H. Lowry, W.L. Oliver, B.D. Garriott, J.C. 1979

Cyclohexane, 1,2,3,4,5,6-hexachloro-, alpha- (8 CI)
Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5beta,6beta)- (9 CI)
319-84-6
C6-H6-Cl6
MW 290.83, MP 159.5-160 C, BP 288 C, VP 0.02 mm Hg at 20 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
443 Adipose		GC-EC	1812	0-0.14 ppm	0.01 ppm	Samples of adipose tissue obtained through pathologists in 32 cities in the U.S.A. ADIPOSE TISSUE; PESTICIDES; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; AUTOPSIES; DDT; DIELDRIN; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE	Kutz, F.W. Yobs, A.R. Johnson, W.G. Wiersma, G.B. 1974b
444 Adipose		CC GC	30	Not determined-0.064 ppm	0.015 ppm	30 samples of adipose tissue obtained from 18 males and 12 females in Tokyo in 1974. Blood collected from 10 subjects in 1975. BLOOD; ADIPOSE TISSUE; PESTICIDES; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; JAPAN; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED TERPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE	Fukano, S. Doguchi, M. 1977
445 Milk		TLC GC	a) 59 b) 15 c) 97	a) Not given b) Not given c) Not given	a) <0.25 ug/kg b) <0.25 ug/kg c) <0.25 ug/kg	a) Nov 1971-Dec 1972 b) June-Nov 1974 c) Mar 1976-Mar 1977 Each case represents a pooled sample from 10-20 mothers. Samples from women in Stockholm, Sweden. PESTICIDES; SWEDEN; MILK; BIPHENYL COMPOUNDS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES; POLYCHLORINATED BIPHENYLS; DIELDRIN; DDT; DDE; HEXACHLOROCYCLOHEXANE	Westoo, G. Noren, K. 1978

Cyclohexane, 1,2,3,4,5,6-hexachloro-, beta- (8 CI)
Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2beta,3alpha,4beta,5alpha,6beta)- (9 CI)
319-85-7
C6-H6-Cl6
MW 290.83, MP 310-315 C (sublimes), BP 60 C at 0.58 mm Hg, VP 0.005 mm Hg at 20 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
446 Adipose		GC-EC	1	Not applicable	400 ppb	Professional pest control operator. Bile, gallstone, and adipose fat obtained from a pest control worker who underwent cholecystectomy. Bile obtained from T-tube drainage of 5 hospitalized patients (who had not been associated with pesticide-using industries) following cholecystectomies. BILE; PESTICIDES; DIELDRIN; CHLORINATED HYDROCARBONS; LIVER; DDT; DDE; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE; OCCUPATIONAL HAZARDS; ARIZONA; BLOOD SERUM; ADIPOSE TISSUE	Paschal, E.H. Roan, C.C. Morgan, D.P. 1974
447 Adipose		GC-EC	998	Maximum value: 3.05 ppm	0.21 ppm	75 collecting sites throughout the USA. Sample quota allocated proportionally according to age, sex, and race distribution in the 1970 Census. Adipose tissue from postmortem examinations and surgical specimens. ADIPOSE TISSUE; PESTICIDES; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; AUTOPSIES; SURGERY; RACIAL STUDIES; DDT; DIELDRIN; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE; OXYCHLORDANE	Kutz, F.W. Yobs, A.R. Strassman, S.C. 1977

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Cyclohexane, 1,2,3,4,5,6-hexachloro-, beta- (8 CI)
Cyclohexane, 1,2,3,4,5,6-hexachloro-, [1alpha,2beta,3alpha,4beta,5alpha,6beta]- (9 CI)
319-85-7
C6-H6-Cl6
MW 290.83, MP 314-315 C (sublimes), BP 60 C at 0.58 mm Hg, VP 0.005 mm Hg at 20 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
448 Adipose		GC-EC	1412	0-26.93 ppm	0.60 ppm	Samples of adipose tissue obtained through pathologists in 32 cities in the U.S.A. ADIPOSE TISSUE; PESTICIDES; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; AUTOPSIES; DDT; DIELDRIN; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE	Kutz, F.W. Yobs, A.R. Johnson, W.G. Wiersma, G.B. 1974b
449 Adipose		CC GC	30	0.16-5.41 ppm	2.32 ppm	30 samples of adipose tissue obtained from 18 males and 12 females in Tokyo in 1974. Blood collected from 10 subjects in 1975. BLOOD; ADIPOSE TISSUE; PESTICIDES; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; JAPAN; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED TERPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE	Fukano, S. Doguchi, M. 1977

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Cyclohexane, 1,2,3,4,5,6-hexachloro-, beta- (8 CI)
Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2beta,3alpha,4beta,5alpha,6beta)- (9 CI)
319-85-7
C6-H6-Cl6
MW 290.83, MP 314-315 C (sublimes), BP 60 C at 0.58 mm Hg, VP 0.005 mm Hg at 20 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
450 Adipose		GC-EC	a) 1412 b) 1615 c) 1913 d) 1095 e) 898	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 0.37 ppm b) 0.34 ppm c) 0.23 ppm d) 0.26 ppm e) 0.21 ppm	a) 1970 survey, 99.15% positive samples b) 1971 survey, 99.32% positive samples c) 1972 survey, 99.21% positive samples d) 1973 survey, 99.18% positive samples e) 1974 survey, 99.55% positive samples Lipid basis Means are geometric. Random samples from 48 states during 1970-1974. Samples included postmortem and surgical specimens. No samples from insecticide poisonings. PESTICIDES; ADIPOSE TISSUE; MILK; URINE; BIOACCUMULATION; BIPHENYL COMPOUNDS; CHLORINATED HYDROCARBONS; ARKANSAS; MISSISSIPPI	Kutz, F.W. Strassman, S.C. Yobs, A.R. 1977
451 Adipose		GC-EC		a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 0.38 ppm b) 0.34 ppm c) 0.23 ppm d) 0.25 ppm e) 0.21 ppm f) 0.24 ppm Geometric	a) FY 70 b) FY 71 c) FY 72 d) FY 73 e) FY 74 f) FY 75 Data from general population, collected by Nat'l Human Monitoring Program for Pesticides. PESTICIDES; CHLOROBENZENES; CHLORINE ORGANIC COMPOUNDS; DDT; UNITED STATES	Kutz, F.W. Strassman, S.C. Sperling, J.F. 1978

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Cyclohexane, 1,2,3,4,5,6-hexachloro-, beta- (8 CI)
Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2beta,3alpha,4beta,5alpha,6beta)- (9 CI)
319-85-7
C6-H6-Cl6
MW 290.83, MP 310-315 C (sublimes), BP 60 C at 0.58 mm Hg, VP 0.005 mm Hg at 20 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
452 Bile		GC-EC	1	0	0	Professional pest control operator. Value for serum. Bile, gallstone, and adipose fat obtained from a pest control worker who underwent cholecystectomy. Bile obtained from T-tube drainage of 5 hospitalized patients (who had not been associated with pesticide-using industries) following cholecystectomies. BILE; PESTICIDES; DIELDRIN; CHLORINATED HYDROCARBONS; LIVER; DDT; DDE; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE; OCCUPATIONAL HAZARDS; ARIZONA; BLOOD SERUM; ADIPOSE TISSUE	Paschal, E.H. Boan, C.C. Morgan, D.P. 1974
453 Blood, plasma		CC GC-EC	a) 75 b) 14 c) 216 d) 32 e) 59 f) 71 g) 59	a) 12.4-159.3 ppb b) Not given c) 7.9-162.6 ppb d) 43.2-226.3 ppb e) Not given f) Not given g) Not given	a) 60.60 ppb b) 81.6 ppb c) 38.11 ppb d) 94.17 ppb e) 67.89 ppb f) 88.51 ppb g) 20.88 ppb	a) Self-defense army-male b) Medical student c) Farmer-female d) Pesticide factory worker e) Mother of one child f) Mother of more than one child g) Umbilical-from mother of one child Groups of "normal" and "supposedly exposed" included officer of Japanese self-defense army, staff members of University hospital, medical students, workers in a pesticide factory and farmers as well as 130 pairs of mother's blood plasma and umbilical cord. PESTICIDES; CHLORINE ORGANIC COMPOUNDS; OCCUPATIONAL HAZARDS; BLOOD PLASMA; PREGNANCY; UMBILICAL CORD; PLACENTA; POPULATION EXPOSURE; JAPAN	Yamaguchi, S. Kaku, S. Kuwahara, Y. Yamada, A. 1976

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Cyclohexane, 1,2,3,4,5,6-hexachloro-, beta- (8 CI)
Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2beta,3alpha,4beta,5alpha,6beta)- (9 CI)
319-85-7
C6-H6-Cl6
MW 290.83, MP 310-315 C (sublimes), BP 60 C at 0.58 mm Hg, VP 0.005 mm Hg at 20 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
454 Blood, serum			3,568	Not given	0.7 ppb	Normal subjects Individuals attending the health appraisal center at the Pacific Health Research Institute in July 1969 to December 1970. CHLORINE ORGANIC COMPOUNDS; PESTICIDES; BLOOD SERUM; CHOLESTEROLS; HAWAII; BIOACCUMULATION	Rashad, M.N. Mi, M.P. Kleamer, H.W. Budy, A.M. Reichert, E.L. 1976
455 Blood, serum		GC-EC	1	Not applicable	3 ppb	Professional pest control operator Bile, gallstone, and adipose fat obtained from a pest control worker who underwent cholecystectomy. Bile obtained from T-tube drainage of 5 hospitalized patients (who had not been associated with pesticide-using industries) following cholecystectomies. BILE; PESTICIDES; DIELDRIN; CHLORINATED HYDROCARBONS; LIVER; DDT; DDE; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE; OCCUPATIONAL HAZARDS; ARIZONA; BLOOD SERUM; ADIPOSE TISSUE	Paschal, E.H. Roan, C.C. Morgan, D.P. 1974

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Cyclohexane, 1,2,3,4,5,6-hexachloro-, beta- (8 CI)
Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2beta,3alpha,4beta,5alpha,6beta)- (9 CI)
319-85-7
C6-H6-Cl6
MW 290.83, MP 309-315 C (sublimes), BP 60 C at 0.58 mm Hg, VP 0.005 mm Hg at 20 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
456 Gall stone		GC-EC	1	0	0	Professional pest control operator Bile, gallstone, adipose fat obtained from a pest control worker who underwent cholecystectomy. Bile obtained from T-tube drainage of 5 hospitalized patients (who had not been associated with pesticide-using industries) following cholecystectomies. BILE; PESTICIDES; DIELDRIN; CHLORINATED HYDROCARBONS; LIVER; DDT; DDE; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE; OCCUPATIONAL HAZARDS; ARIZONA; BLOOD SERUM; ADIPOSE TISSUE	Paschal, E.H. Boan, C.C. Morgan, D.P. 1974
457 Milk		TLC GC	a) 59 b) 15 c) 97	a) 0.7-21 ug/kg b) 1.7-5.7 ug/kg c) 1.9-7.7 ug/kg	a) 6.4 ug/kg b) 3.6 ug/kg c) 3.8 ug/kg	a) Nov 1971-Dec 1972 b) June-Nov 1974 c) Mar 1976-Mar 1977 Each case represents a pooled sample from 10-20 mothers. Samples from women in Stockholm, Sweden PESTICIDES; SWEDEN; MILK; BIPHENYL COMPOUNDS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES; POLYCHLORINATED BIPHENYLS; DIELDRIN; DDT; DDE; HEXACHLOROCYCLOHEXANE	Westoo, G. Noren, K. 1978

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Cyclohexane, 1,2,3,4,5,6-hexachloro-, beta- (8 CI)
Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2beta,3alpha,4beta,5alpha,6beta)- (9 CI)
319-85-7
C6-H6-Cl6
MW 290.83, MP 314-315 C (sublimes), BP 60 C at 0.58 mm Hg, VP 0.005 mm Hg at 20 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
458 Milk		GC	2	0.07-0.10 ug	0.09 ug	Amounts varied for different feedings. Values are daily total. Samples from donors at various times of breast feeding and at different times of the day. MILK; PESTICIDES; PESTICIDE RESIDUES; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; HEXACHLOROBENZENE; DDT; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE; OXYCHLORDANE; NONACHLOR; DDE; DIELDRIN	Mes, J. Davies, D.J. 1978
459 Milk, whole		GC-EC	57	Trace-0.01 ppm	0.014 ppm	Residue levels were below instrument sensitivity and could not be confirmed. Samples from 17 Negroes and 40 Caucasians in hospitals in Arkansas and Mississippi. Agricultural application on rice fields PESTICIDES; PESTICIDE RESIDUES; MILK; BIOACCUMULATION; POPULATION EXPOSURE; MAMMARY GLANDS; LACTATION; PLACENTA; ARKANSAS; MISSISSIPPI	Strassman, S.C. Futz, P.W. 1977
460 Milk, whole		TLC GC/MS GC-EC	57	Trace - 0.01 ppm	< 0.01 ppm	36.8% positive samples Samples from lactating women in selected areas of Arkansas and Mississippi. PESTICIDES; ADIPOSE TISSUE; MILK; URINE; BIOACCUMULATION; BIPHENYL COMPOUNDS; CHLORINATED HYDROCARBONS; ARKANSAS; MISSISSIPPI	Futz, P.W. Strassman, S.C. Yobs, A.R. 1977

Cyclohexane, 1,2,3,4,5,6-hexachloro-, delta- (8 CI)
Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3alpha,4beta,5alpha,6beta)- (9 CI)
319-86-8
C6-H6-Cl6
MW 290.83, MP 141.5-142.0 C, BP 60 C at 0.30 mm Hg, VP 0.02 mm Hg at 20 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
861 Adipose		GC-EC	1812	0-1.11 ppm	0.01 ppm	Samples of adipose tissue obtained through pathologists in 32 cities in the U.S.A. ADIPOSE TISSUE; PESTICIDES; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; AUTOPSIES; DDT; DIELDRIN; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE	Kutz, F.W. Yobs, A.R. Johnson, W.G. Wiersma G.B. 1974b

Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI)
Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)
58-89-9
C6-H6-Cl6
MW 290.85, MP gamma-isomer crystals 112.5 C, BP 323.4 C, 176.2 C at 10 mm Hg, VP 0.14 mm Hg at 40 C

TISSUE	EXPOSURE ACUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
462 Adipose		GC-EC	a) 774 b) 775	a) Maximum value: 0.10 ppm b) Maximum value: 0.01 ppm	a) Not given b) Not given	a) Caucasian b) Negro 75 collecting sites throughout the U.S.A. Sample quota allocated proportionally according to age, sex, and race distribution in the 1970 Census. Adipose tissue from postmortem examinations and surgical specimens. ADIPOSE TISSUE; PESTICIDES; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; AUTOPSIES; SURGERY; RACIAL STUDIES; DDT; DIELDRIN; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE; OXYCHLORDANE	Kutz, F.W. Yobs, A.R. Strassman, S.C. 1977
463 Adipose		GC-EC	1412	0-0.18 ppm	0.01 ppm	Samples of adipose tissue obtained through pathologists in 32 cities in the U.S.A. ADIPOSE TISSUE; PESTICIDES; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; AUTOPSIES; DDT; DIELDRIN; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE	Kutz, F.W. Yobs, A.R. Johnson, W.G. Wiersma, G.B. 1974b

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Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI)
Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)
58-89-9
C6-H6-Cl6
MW 290.85, MP gamma-isomer crystals 112.5 C, BP 323.4 C, 176.2 C at 10 mm Hg, VP 0.14 mm Hg at 40 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
468 Adipose		GC-EC	170	0.009-0.95 ppm	0.26 ppm	Subcutaneous adipose tissue of the abdomen from 170 autopsy cases of sudden death collected at Medicolegal Center of Tehran. Ages from 4-91 years. PESTICIDES; ADIPOSE TISSUE; IRAN; CHLORINATED HYDROCARBONS; DIELDRIN; DDT; BIOACCUMULATION; METABOLITES; CHLORINE ORGANIC COMPOUNDS; AUTOPSIES; AGE; DDE; HEXACHLOROCYCLOHEXANE	Hashemy-Tonkabony, S.E. Soleimani-Amiri, M.J. 1978
465 Adipose		CC GC-EC	a) 5 b) 9	a) 0.14-0.34 ppm b) 1.02[sic]-0.36 ppm	a) 0.2586 ppm b) 0.1403 ppm	a) Control-adjacent to breast tissue b) Adjacent to malignant breast tissue Values represent the concentrations in extracted lipids. Malignant tissue, adjacent to apparently normal glandular and adipose tissue of nine women with adenocarcinoma of the breast, obtained from the A.C. Camargo Hospital in Sao Paulo. Mammary gland and adjacent adipose tissue from 5 healthy women who died accidentally used for controls. BREAST; MAMMARY GLANDS; NEOPLASMS; ADIPOSE TISSUE; CARCINOMAS; PESTICIDES; LIPIDS; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; BIPHENYL COMPOUNDS; DIELDRIN; POLYCHLORINATED BIPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE; DDD; HEPTACHLOR EPOXIDE	Wassermann, M. Nogueira, D.P. Tomatis, L. Mirra, A.P. Shibata, M. Arie, G. Cucos, S. Wassermann, D. 1976

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Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI)
Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)
58-89-9
C6-H6-Cl6
MW 290.85, MP gamma-isomer crystals 112.5 C, BP 323.4 C, 176.2 C at 10 mm Hg, VP 0.18 mm Hg at 60 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
466 Adipose		CC GC	30	0.003-0.131 ppm	0.026 ppm	30 samples of adipose tissue obtained from 18 males and 12 females in Tokyo in 1974. Blood collected from 10 subjects in 1975. BLOOD; ADIPOSE TISSUE; PESTICIDES; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; JAPAN; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED TERPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE	Fukano, S. Doguchi, M. 1977
467 Adipose		CC GC-EC	8	Not given	0.6742 ppm	In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DDT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977

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Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI)
Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)
58-89-9
C6-H6-Cl6
MW 290.85, MP gamma-isomer crystals 112.5 C, BP 323.4 C, 176.2 C at 10 mm Hg, VP 0.14 mm Hg at 40 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
468 Amniotic fluid		CC GC-EC	4	Not given	22.6036 ppm	In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DET; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977
469 Blood		CC GC-EC	a) 24 b) 23	a) Not given b) Not given	a) 0.3956 ppm b) 0.9409 ppm	a) Maternal b) Fetal In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DET; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977

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Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI)
Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)
58-89-9
C6-H6-Cl6
MW 290.85, MP gamma-isomer crystals 112.5 C, BP 323.4 C, 176.2 C at 10 mm Hg, VP 0.14 mm Hg at 40 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
470 Mammary gland		CC GC-EC	a) 5 b) 9 c) 9	a) 0.19-0.81 ppm b) 0.21-1.28 ppm c) 0.10-2.57 ppm	a) 0.3905 ppm b) 0.6100 ppm c) 0.5698 ppm	a) Control b) Malignant c) Breast tissue adjacent to malignancy Values represent the concentrations in extracted lipids. Malignant tissue, adjacent to apparently normal glandular and adipose tissue of nine women with adenocarcincma of the breast, obtained from the A.C. Camargo Hospital in Sao Paulo. Mammary gland and adjacent adipose tissue from 5 healthy women who died accidentally used for controls. BREAST; MAMMARY GLANDS; NEOPLASMS; ADIPOSE TISSUE; CARCINOMAS; PESTICIDES; LIPIDS; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; BIPHENYL COMPOUNDS; DIELDRIN; POLYCHLORINATED BIPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE; DDD; HEPTACHLOR EPOXIDE	Wassermann, M. Nogueira, D.P. Tomatis, L. Mirra, A.P. Shibata, H. Arie, G. Cucos, S. Wassermann, D. 1976
471 Milk		TLC GC	a) 59 b) 15 c) 97	a) Not given, b) Not given c) Not given	a) < or = 0.5 ug/kg b) < or = 0.5 ug/kg c) < or = 0.2 ug/kg	a) Nov 1971-Dec 1972 b) June-Nov 1974 c) Mar 1976-Mar 1977 Each case represents a pooled sample from 10-20 mothers. Samples from women in Stockholm, Sweden. PESTICIDES; SWEDEN; MILK; BIPHENYL COMPOUNDS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES; POLYCHLORINATED BIPHENYLS; DIELDRIN; DDT; DDE; HEXACHLOROCYCLOHEXANE	Westoo, G. Noren, K. 1978

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Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI)
Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)
58-89-9
C6-H6-Cl6
MW 290.85, MP gamma-isomer crystals 112.5 C, BP 323.4 C, 176.2 C at 10 mm Hg, VP 0.14 mm Hg at 40 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
472 Placenta		CC GC-EC	19	Not given	1.0525 ppm	In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DDT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977
473 Uterus		CC GC-EC	7	Not given	2.0036 ppm	In extracted lipids of uterine muscle. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DDT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977

Cyclopenta[c]furo[3',2':4,5]furo[2,3-h][1]benzopyran-1,11-dione, 2,3,6aalpha,9aalpha-tetrahydro-4-methoxy- (8 CI)
Cyclopenta[c]furo[3',2':4,5]furo[2,3-h][1]benzopyran-1,11-dione, 2,3,6a,9a-tetrahydro-4-methoxy-, (6aR-cis)- (9 CI)
1162-65-8
C17-H12-O6
MW 312.3, MP 268-269 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
474 Liver	Ingestion	TLC MS Fluorometry		Not applicable	520 ng/g wet wt	56-yr-old male Caucasian rural resident of Missouri, with carcinoma of rectum and liver. Carcinoma of rectum and liver, with extensive necrosis of liver tissue. Food mold LIVER; AFLATOXINS; CARCINOMAS; HEALTH HAZARDS; INTESTINES; MISSOURI	Phillips, D.L. Tourtee, D.M. Searles, S. 1976

D-Streptamine, O-3-deoxy-4-C-methyl-3-(methylamino)-beta-L-arabinopyranosyl-(1-6)-O-(2,6-diamino-2,3,6-tetradeoxy-alpha-D-glycero-hex-4-enopyranosyl-(1-4))-2-deoxy-N(1)-ethyl-
56391-56-1
C21-H41-N5-O7

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
475 Blood, serum	Injection		a) 14 b) 12 c) 11	a) 7-10 ug/ml b) 2-6 ug/ml c) <2 ug/ml	a) Not applicable b) Not applicable c) Not applicable	a) Patients with infections, 1 hr after administration, 15 of 22 observations in this range b) Patients with infections, 8 hr after administration, 18 of 19 observations in this range c) Patients with infections, 12 hr after administration, 8 of 15 observations in this range Patients with infections of urinary tract, musculoskeletal infections, pneumonia, or pneumonia and septicemia. ANTIBIOTICS; DRUGS; BLOOD SERUM; CASE HISTORIES; INFECTION	Chadwick, P. Bruce, A.W. Cooke, T.D.V. Hardy, G.J. 1978

Dibenz(b,e)oxepin-delta(11(6H),gamma)-propylamine, N-methyl-, hydrochloride (8 CI)
1-Propanamine, 3-dibenz(b,e)oxepin-11(6H)-ylidene-N-methyl-, hydrochloride (9 CI)
2887-91-4
C18-H19-N-O.Cl-H
MW 301

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
476 Blood, plasma		GC	a) 2 b) 2	a) 10.5-44.0 ng/ml b) 15.0-46.0 ng/ml	a) 27.2 ng/ml b) 30.5 ng/ml	a) cis-Desmethyldoxepin b) trans-Desmethyldoxepin Values estimated from graph. Female patients, 38 and 65 yrs old, taking 75 and 200 mg doxepin per day for two weeks. DRUGS; BLOOD PLASMA; MEASUREMENT METHODS; ANTIDEPRESSIVE AGENTS	Bosseel, M.T. Bogaert, M.G. Claeys, M. 1978

Dibenz(b,e)oxepin-delta(11(6H),gamma)-propylamine, N,N-dimethyl- (8 CI)
1-Propanamine, 3-dibenz(b,e)oxepin-11(6H)-ylidene-N,N-dimethyl- (9 CI)
1668-19-5
C19-H21-N-O
MW 279.37, BP 154-157 C at 0.03 mm Hg, 260-270 C at 0.2 mm Hg

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
477 Bile	Ingestion	GC	a) 1 b) 1 c) 1	a) Not applicable b) Not applicable c) Not applicable	a) 51 mg/l b) 38 mg/l c) 195 mg/l	Total concentration of cis and trans isomers. Victims (age 23-28) of fatal Dozepin poisoning. All exhibited prior depressive or suicidal behavior. Blood alcohol 0.5-1.5 g/l. One or more of the following found at autopsy: focal atelectasis, edema and congestion in the lungs, congestion in kidneys, brain, spleen, and liver. DRUGS; ANTIDEPRESSIVE AGENTS; PSYCHOTROPIC DRUGS; CASE HISTORIES; BLOOD; URINE; BILE; BRAIN; KIDNEYS; LIVER; LUNGS; SPLEEN; METABOLITES	de Groot, G. Maes, R.A.A. Hodnett, C.N. Kelly, R.C. Bost, R.O. Sunshine, I. 1978
478 Bile			1	Not applicable	81.0 mg/l	Death due to dozepin overdose. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, H. Holder, A.T. Powell, R. 1979

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Dibenz(b,e)oxepin-delta(11(6H),gamma)-propylamine, N,N-dimethyl- (8 CI)
1-Propanamine, 3-dibenz(b,e)oxepin-11(6H)-ylidene-N,N-dimethyl- (9 CI)
1668-19-5
C19-H21-N-O
MW 279.37, BP 150-157 C at 0.03 mm Hg, 260-270 C at 0.2 mm Hg

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
479 Blood	Ingestion	GC	a) ? b) ? c) ? d) ?	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) 2.7 mg/l b) 29 mg/l c) 4.8 mg/l d) 0.7 mg/l	Total concentration of cis and trans isomers. Victims (age 23-28) of fatal Doxepin poisoning. In 3, blood alcohol was 0.5-1.5 g/l. All exhibited prior suicidal or depressive behavior. One or more of the following found at autopsy: focal atelectasis, edema and congestion in the lungs, congestion in kidneys, brain, spleen, and liver. DRUGS; ANTIDEPRESSIVE AGENTS; PSYCHOTROPIC DRUGS; CASE HISTORIES; BLOOD; URINE; BILE; BRAIN; KIDNEYS; LIVER; LUNGS; SPLEEN; METABOLITES	de Groot, G. Maes, R.A.A. Nodnett, C.W. Kelly, R.C. Rent, R.O. Sunshine, I. 1978
480 Blood		GC	?	a) Not applicable b) Not applicable	a) 1.9 mg/l b) 6.7 mg/l	a) Peripheral blood b) Liver blood Death due to doxepin overdose. 46 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, H. 1979

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Dibenz(b,e)oxepin-delta[11(6H),gamma]-propylamine, N,N-dimethyl- (8 CI)
1-Propanamine, 3-dibenz(b,e)oxepin-11(6H)-ylidene-N,N-dimethyl- (9 CI)
1668-19-5
C19-H21-N-O
MW 279.37, BP 154-157 C at 0.03 mm Hg, 260-270 C at 0.2 mm Hg

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
481 Blood, plasma		GC	a) 2 b) 2	a) 2.5-6.0 ng/ml b) 15.5-58.0 ng/ml	a) 4.2 ng/ml b) 36.8 ng/ml	a) cis-Doxepin b) trans-Doxepin Values estimated from graph. Female patients, 38-66 yrs old, taking 75 and 200 mg doxepin per day for two weeks. DRUGS; BLOOD PLASMA; MEASUREMENT METHODS; ANTIDEPRESSIVE AGENTS	Bonseel, M.T. Bogaert, M.G. Claeys, M. 1978
482 Blood, serum		GC/MS	9	37-529 ng/ml	220 ng/ml	Analyses in triplicate. Doxepin measured as N-trichloroethylformyl-desmethyl-doxepin. Patients receiving sinequan therapy. ANTIDEPRESSIVE AGENTS; DRUGS; BLOOD SERUM; MEASUREMENT METHODS	Wallace, J.E. Hamilton, M.E. Olivarcon, P. Harris, S.C. 1978
483 Brain	Ingestion	GC	a) 1 b) 1 c) 1 d) 1	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) 11 mg/kg b) 16 mg/kg c) 21 mg/kg d) 9 mg/kg	Total concentration of cis and trans isomers. Victims (age 23-28) of fatal Doxepin poisoning. In 3, blood alcohol was 0.5-1.5 g/l. All exhibited prior depressive or suicidal behavior. One or more of the following found at autopsy: focal atelectasis, edema and congestion in the lungs, congestion in kidneys, brain, spleen, and liver. DRUGS; ANTIDEPRESSIVE AGENTS; PSYCHOTROPIC DRUGS; CASE HISTORIES; BLOOD; URINE; BILE; BRAIN; KIDNEYS; LIVER; LUNGS; SPLEEN; METABOLITES	de Groot, G. Maes, R.A.A. Hodnett, C.N. Kelly, R.C. Bost, R.O. Sunshine, I. 1978

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Dibenz(b,e)oxepin-delta(11(6H),gamma)-propylamine, N,N-dimethyl- (8 CI)
1-Propanamine, 3-dibenz(b,e)oxepin-11(6H)-ylidene-N,N-dimethyl- (9 CI)
1668-19-5
C19-H21-N-O
MW 279.17, BP 154-157 C at 0.03 mm Hg, 260-270 C at 0.2 mm Hg

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
484 Kidney	Ingestion	GC	a) 1 b) 1 c) 1 d) 1	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) 16 mg/kg b) 10 mg/kg c) 3.3 mg/kg d) 19 mg/kg	Total concentration for cis and trans isomers. Victims (age 23-28) of fatal Doxepin poisoning. In 3 blood alcohol was 0.5-1.5 g/l. All exhibited prior depressive or suicidal behavior. One or more of the following found at autopsy: focal atelectasis, edema and congestion in the lungs, congestion in kidneys, brain, spleen, and liver. DRUGS; ANTIDEPRESSIVE AGENTS; PSYCHOTROPIC DRUGS; CASE HISTORIES; BLOOD; URINE; BILE; BRAIN; KIDNEYS; LIVER; LUNGS; SPLEEN; METABOLITES	de Groot, G. Maes, R.A.A. Hodnett, C.N. Kelly, R.C. Post, R.O. Sunshine, I. 1978
485 Liver	Ingestion	GC	a) 1 b) 1 c) 1 d) 1	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) 38 mg/kg b) 22 mg/kg c) 37 mg/kg d) 3 mg/kg	Total concentration of cis and trans isomers. Victims (age 23-28) of fatal Doxepin poisoning. In 3 blood alcohol was 0.5-1.5 g/l. All exhibited prior depressive or suicidal behavior. One or more of the following found at autopsy: focal atelectasis, edema and congestion in the lungs, congestion in kidneys, brain, spleen, and liver. DRUGS; ANTIDEPRESSIVE AGENTS; PSYCHOTROPIC DRUGS; CASE HISTORIES; BLOOD; URINE; BILE; BRAIN; KIDNEYS; LIVER; LUNGS; SPLEEN; METABOLITES	de Groot, G. Maes, R.A.A. Hodnett, C.N. Kelly, R.C. Post, R.O. Sunshine, I. 1978

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Dibenz(b,e)oxepin-delta[11(6H),gamma)-propylamine, N,N-dimethyl- (8 CI)
1-Propanamine, 3-dibenz(b,e)oxepin-11(6H)-ylidene-N,N-dimethyl- (9 CI)
1668-19-5
C19-H21-N-O
MW 279.37, BP 154-157 C at 0.03 mm Hg, 260-270 C at 0.2 mm Hg

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
486 Lung	Ingestion	GC	a) 1 b) 1 c) 1	a) Not applicable b) Not applicable c) Not applicable	a) 114 mg/kg b) 796 mg/kg c) 171 mg/kg	Total concentration of cis and trans isomers Victims (age 23-28) of fatal Doxepin poisoning. Blood alcohol 0.5-1.5 g/l. All exhibited prior depressive or suicidal bahvior. One or more of the following found at autopsy: focal atelectasis, edema and congestion in the lungs, congestion in kidneys, brain, spleen, and liver. DRUGS; ANTIDEPRESSIVE AGENTS; PSYCHOTROPIC DRUGS; CASE HISTORIES; BLOOD; URINE; BILE; BRAIN; KIDNEYS; LIVER; LUNGS; SPLEEN; METABOLITES	de Groot, G. Maes, R.A.A. Hodnett, C.N. Kelly, R.C. Post, R.O. Sunshine, I. 1978
487 Spleen	Ingestion	GC	1	Not applicable	13 mg/kg	Total concentration of cis and trans isomers. Victim of fatal Doxepin poisoning One or more of the following found at autopsy: focal atelectasis, edema and congestion in the lungs, congestion in kidneys, brain, spleen, and liver. DRUGS; ANTIDEPRESSIVE AGENTS; PSYCHOTROPIC DRUGS; CASE HISTORIES; BLOOD; URINE; BILE; BRAIN; KIDNEYS; LIVER; LUNGS; SPLEEN; METABOLITES	de Groot, G. Maes, R.A.A. Hodnett, C.N. Kelly, R.C. Post, R.O. Sunshine, I. 1978

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Dibenz(b,e)oxepin-delta[11(6H),gamma)-propylamine, N,N-dimethyl- (8 CI)
1-Propanamine, 3-dibenz(b,e)oxepin-11(6H)-ylidene-N,N-dimethyl- (9 CI)
1668-19-5
C19-H21-N-O
MW 279.37, BP 154-157 C at 0.03 mm Hg, 260-270 C at 0.2 mm Hg

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
488 Urine	Ingestion	GC	a) 1 b) 1 c) 1	a) Not applicable b) Not applicable c) Not applicable	a) 8.4 mg/l b) 12 mg/l c) 2.1 mg/l	Total concentration of cis and trans isomers. Victims (age 23-28) of fatal Doxepin poisoning. All exhibited prior depressive or suicidal behavior. In 2, blood alcohol was 0.5 and 0.9 g/l. One or more of the following found at autopsy: focal atelectasis, edema and congestion in the lungs, congestion in kidneys, brain, spleen, and liver. DRUGS; ANTIDEPRESSIVE AGENTS; PSYCHOTROPIC DRUGS; CASE HISTORIES; BLOOD; URINE; BILE; BRAIN; KIDNEYS; LIVER; LUNGS; SPLEEN; METABOLITES	de Groot, G. Maes, R.A.A. Hodnett, C.N. Kelly, E.C. Post, E.O. Sunshine, I. 1978

Dibenzo(b,e)thiepin-delta(11(6H),gamma)-propylamine, N,N-dimethyl- (8 CI)
1-Propanamine, 3-dibenzo(b,e)thiepin-11(6H)-ylidene-N,N-dimethyl- (9 CI)
113-53-1
C19-H21-N-S

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
489 Bile		GC	3	12.0-25.1 mg/l	Not given	Deaths due to dothiepin. Other data available for fatalities due to dothiepin plus alcohol or other drugs. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, R. 1979
490 Blood		GC	a) 4 b) 3	a) 0.3-2.2 mg/l b) 0.6-23.5 mg/l	a) Not given b) Not given	a) Values for peripheral blood b) Values for liver blood Deaths due to dothiepin poisoning. Other data available for fatalities due to dothiepin plus alcohol or other drugs. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, R. 1979

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Dibenzo[b,e]thiepin-1elta(11(6H),gamma)-propylamine, N,N-dimethyl- (9 CI)
1-Propanamine, 3-dibenzo[b,e]thiepin-11(6H)-ylidene-N,N-dimethyl- (9 CI)
113-53-1
C19-H21-N-S

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
491 Urine		GC	3	0.4-5.1 mg/l	2.6 mg/l	Deaths due to dothiepin. Other data available for fatilities due to dothiepin plus alcohol or other drugs. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, R. 1979

Digoxin (8 CI)
Card-20(22)-enolide, 3-[[O-2,6-dideoxy-beta-D-ribo-hexopyranosyl-(1-4)-O-2,6-dideoxy-beta-D-ribo-hexopyranosyl-(1-4)-2,6-dideoxy-beta-D-ribo-hexopyranosyl]oxy]-12,14-dihydroxy-, (3beta,5beta,12beta)- (9 CI)
20830-75-5
C41-H64-O14

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
492 Blood, serum						Review Algorithm given for use in suspected digoxin toxicity. 33 hr, IV 36 hr, Oral Therapeutic BLOOD SERUM; DRUGS; CASE HISTORIES; CARDIOVASCULAR DISEASES; ADULTS; CHILDREN; REVIEW; DRUG THERAPY	Doherty, J.E. 1978
493 Blood, serum	Ingestion	RIA	11	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given	a) 0.90 ng/ml b) 1.25 ng/ml c) 0.98 ng/ml d) 0.31 ng/ml e) 0.14 ng/ml f) 0.02 ng/ml g) 0.10 ng/ml h) 0.25 ng/ml i) 0.13 ng/ml j) 0.07 ng/ml	a) 0.5 hr b) 0.75 hr c) 1.5 hr d) 7 hr e) 48 hr f) 0.5 hr g) 0.75 hr h) 1.5 hr i) 7 hr j) 48 hr 0.50 mg dose (a-e), also taken with an oral 90 ml dose of kaolin-pectin suspension (f-j). The latter significantly reduced rate of drug absorption. Adults 24-39 yr (mean 29.7 yr) and weighing 63.5-98.8 kg (mean 80.7 kg). DRUGS; BLOOD SERUM	Albert, K.S. Ayres, J.W. Disanto, A.R. Weidler, O.J. Sakmar, E. Hallmark, M.R. Stoll, R.G. DeSante, K.A. Wagner, J.G. 1978

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Digoxin (8 CI)
Card-20(22)-enolide, 3-[(O-2,6-dideoxy-beta-D-ribo-hexopyranosyl-(1-4)-O-2,6-dideoxy-beta-D-ribo-hexopyranosyl-(1-4)-2,6-dideoxy-beta-D-ribo-hexopyranosyl)oxy)-12,14-dihydroxy-, (3beta,5beta,12beta)- (9 CI)
20830-75-5
C41-H64-O14

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
49% Blood, whole		RIA	a) 27 b) 27 c) 27 d) 24 e) 11	a) 0.5-17.1 ng/ml b) 0.3-15.8 ng/ml c) 0.8-25.8 ng/ml d) 0.9-18.2 ng/ml e) 0.4-15.2 ng/ml	a) 3.2 ng/ml b) 2.9 ng/ml c) 5.2 ng/ml d) 4.5 ng/ml e) 4.2 ng/ml	a) Antemortem - at time of sampling b) Antemortem - calculated for time of death c) Postmortem - from from from heart d) Postmortem - subclavian e) Postmortem - femoral 27 autopsy cases from 2 county hospitals. BLOOD; DRUGS; AUTOPSIES; HEART; BLOOD VESSELS; EYE	Vorpahl, T.E. Coe, J.I. 1978
49% Eye		RIA	27	0.4-10.4 ng/ml	1.9 ng/ml	Therapeutic doses of digoxin administered prior to death. Post mortem data for vitreous humor 27 autopsy cases from 2 county hospitals. BLOOD; DRUGS; AUTOPSIES; HEART; BLOOD VESSELS; EYE	Vorpahl, T.E. Coe, J.I. 1978

Erythromycin
114-07-8
C37-H67-N-O13
MW 733.92, MP 135-140 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
496 Blood	Injection	Microbiological	7	a) 12.4-0.4 ug/ml b) 9.9-0.4 ug/ml c) 12.2-0.2 ug/ml d) 9.9-0.4 ug/ml e) 7.8-0.4 ug/ml f) 9.9-0.4 ug/ml g) 8.1-0.4 ug/ml h) 7.9-1.2 ug/ml	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) Normal patient b) Normal patient c) Normal patient d) Cardiovascular disease e) Chronic renal failure f) Chronic renal failure g) Chronic renal failure h) Chronic renal failure f) and g) values for same patient at different times Values show decreases over 8-hr after 500 mg doses. Samples from Hospital patients in Wisconsin. 2-7 hr DRUGS; ANTIBIOTICS; ERYTHROMYCINS; BLOOD	Welling, P.G. Craig, W.A. 1978
497 Blood, serum	Ingestion	Microbiological	10	a) Not given b) Not given c) Not given d) Not given	a) 2.52 ug/ml b) 0.18 ug/ml c) 1.49 ug/ml d) 0.41 ug/ml	a) Peak value, 1 hr after ingestion b) 8 hr after ingestion c) Peak value, 1.5 hr after 4th dose, doses every 8 hrs d) 8 hr after 4th dose, doses every 8 hrs More data available. 10 Healthy 21 to 30 yr olds 1.9 hr ERYTHROMYCINS; DRUGS; BLOOD SERUM	Berend, W. Nutland, J. Marlin, G.E. 1978

Estradiol (8 CI)
Estra-1,3,5(10)-triene-3,17-diol, (17beta)- (9 CI)
50-28-2
C18-H24-O2

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
498 Blood, serum	Ingestion	RIA	17	330-350 pmoles/l	340 pmoles/l	Women receiving 2 mg estradiol daily (10 of 17), and 1.5 mg piperazine estrone daily (7 of 17), 6 hr after administration. Values estimated from graph. More data available. Data from 17 postmenopausal women receiving treatment for menopausal symptoms. BLOOD SERUM; STEROIDS; DRUG THERAPY; UNITED KINGDOM	Anderson, A.B.M Sklovsky, E. Sayers, L. Steel, P.A. Turnbull, A.C. 1978
499 Blood, whole	Intravaginal	RIA	6	a) Not given b) Not given c) Not given d) Not given	a) 14.1 pg/ml b) 527 pg/ml c) 80 pg/ml d) 33 pg/ml	a) Base level b) Peak at 4 hr, decline to 19 times base at 24 hr (2 mg dose estradiol cream) c) Peak at 4 hr, decline to 2 times base at 24 h4 (0.2 mg dose estradiol cream) d) Peak at 6 hr, decline to base at 24 h4 (1.25 mg dose conjugated estrogen cream) 6 estrogen-deficient women volunteers 200-ug dose is appropriate for estrogen replacement therapy. Topical effect is small and care should be exercised in use in presence of estrogen-dependent neoplasms. DRUGS; HORMONES; BLOOD	Rigg, L.A. Hermann, H. Yen, S.S.C. 1978

Estrone (8 CI)
Estra-1,3,5(10)-trien-17-one, 3-hydroxy- (9 CI)
53-16-7
C18-H22-02

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
500 Blood, serum	Ingestion	RIA	17	770-860 pmoles/l	795 pmoles/l	Women receiving 2 mg estradiol daily (10 of 17), and 1.5 mg piperazine estrone daily (7 of 17), 6 hr after administration. Values estimated from graph. More data available. Data from 17 postmenopausal women receiving treatment for menopausal symptoms. BLOOD SERUM; STEROIDS; DRUG THERAPY; UNITED KINGDOM	Anderson, A.B.M Sklovsky, E. Sayers, L. Steel, P.A. Turnbull, A.C. 1978
50[1] Blood, whole	Intravaginal	RIA	6	a) Not given b) Not given c) Not given d) Not given	a) 27.5 pg/ml b) 330 pg/ml c) 43 pg/ml d) 73 pg/ml	a) Base level b) Peak at 24 hr (2 mg dose estradiol cream) c) Peak at 8 hr (0.2 mg dose estradiol cream) d) Peak at 8 hr (1.25 mg dose conjugated estrogen crea 6 estrogen-deficient women volunteers 200 ug dose is appropriate for estrogen replacement therapy. Topical effect is small and care should be exercised in use in presence of estrogen-dependent neoplasms. DRUGS; HORMONES; BLOOD	Rigg, L.A. Hermann, H. Yen, S.S.C. 1978

Estrone, hydrogen sulfate (8 CI)
Estra-1,3,5(10)-trien-17-one, 3-(sulfooxy)- (9 CI)
481-97-0
C18-H22-05-S

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
502 Blood	Ingestion	RIA	17	18.3-20.6 nmoles/l	19.4 nmoles/l	Women receiving 2 mg estradiol daily (10 of 17), and 1.5 mg piperazine estrone daily (7 of 17). 6 hr after administration. Values estimated from graph. More data available. Data from 17 postmenopausal women receiving treatment for menopausal symptoms. BLOOD SERUM: STEROIDS: DRUG THERAPY	Anderson, A.B.M Shlowsky, E. Sayers, L. Steel, P.A. Turnbull, A.C. 1978

Ethane, 1,1-dichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)- (8 CI)
Benzene, 1-chloro-2-(2,2-dichloro-1-(4-chlorophenyl)ethyl)- (9 CI)
53-19-0
C14-H10-Cl4
MW 320.05, MP 76-78 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
503 Adipose		GC-EC	9	0-3.72 ppm	0.6000 ppm	Adjacent to malignant breast tissue Malignant tissue, adjacent to apparently normal glandular and adipose tissue of nine women with adenocarcinoma of the breast, obtained from the A.C. Camargo Hospital in Sao Paulo. Mammary gland and adjacent adipose tissue from 5 healthy women who died accidentally used for controls. BREAST; MAMMARY GLANDS; NEOPLASMS; ADIPOSE TISSUE; CARCINOMAS; PESTICIDES; LIPIDS; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; BIPHENYL COMPOUNDS	Wassermann, M. Nogueira, D.P. Tomatis, L. Mirra, A.P. Shibata, H. Arie, G. Cucos, S. Wassermann, D. 1976
508 Adipose		GC GC-EC	8	Not given	0.0736 ppm	In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DDT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977

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Ethane, 1,1-dichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)- (8 CI)
Benzene, 1-chloro-2-(2,2-dichloro-1-(4-chlorophenyl)ethyl)- (9 CI)
53-19-0
C14-H10-Cl4
MW 320.05, MF 76-78 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
505 Amniotic fluid		CC GC-EC	4	Not given	4.0841 ppm	In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DIT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977
506 Blood		CC GC-EC	a) 24 b) 23	a) Not given b) Not given	a) 0.3333 ppm b) 0.4611 ppm	a) Maternal b) Fetal In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DIT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977

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Ethane, 1,1-dichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)- (8 CI)
Benzene, 1-chloro-2-(2,2-dichloro-1-(4-chlorophenyl)ethyl)- (9 CI)
53-19-0
C14-H10-C14
MW 320.05, MF 76-78 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
507 Mammary gland		CC GC-EC	a) 9 b) 9	a) 0-4.08 ppm b) 0-4.28 ppm	a) 1.4115 ppm b) 0.7292 ppm	a) Malignant b) Breast tissue adjacent to malignancy Malignant tissue, adjacent to apparently normal glandular and adipose tissue of nine women with adenocarcinoma of the breast, obtained from the A.C. Camargo Hospital in Sao Paulo. Mammary gland and adjacent adipose tissue from 5 healthy women who died accidentally used for controls. BREAST; MAMMARY GLANDS; NEOPLASMS; ADIPOSE TISSUE; CARCINOMAS; PESTICIDES; LIPIDS; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; BIPHENYL COMPOUNDS; DIELDRIN; POLYCHLORINATED BIPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE; DDD; HEPTACHLOR EPOXIDE; DIELDRIN; POLYCHLORINATED BIPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE; DDD; HEPTACHLOR EPOXIDE	Wassermann, M. Nogueira, D.P. Tomatis, L. Mirra, A.P. Shibata, H. Arie, G. Cucos, S. Wassermann. D. 1976
508 Placenta		CC GC-EC	19	Not given	0.4368 ppm	In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DDT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977

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Ethane, 1,1-dichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)- (8 CI)
Benzene, 1-chloro-2-(2,2-dichloro-1-(4-chlorophenyl)ethyl)- (9 CI)
53-19-0
C14-H10-Cl4
MW 320.05, MP 76-78 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
509 Uterus		GC GC-EC		Not given	0.5063 ppm	In extracted lipids of uterine muscle. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DDT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977

Ethane, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(2,2-dichloroethylidene)bis(4-chloro- (9 CI)
72-54-8
C14-H10-C18
MW 350.46, MP 221-222 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
510 Adipose		GC-EC	170	0.008-2.57 ppm	0.232 ppm	Subcutaneous adipose tissue of the abdomen from 170 autopsy cases of sudden death collected at Medicolegal Center of Tehran. Ages from 4-91 years. PESTICIDES; ADIPOSE TISSUE; IRAN; CHLORINATED HYDROCARBONS; DIELDRIN; DDT; BIOACCUMULATION; METABOLITES; CHLORINE ORGANIC COMPOUNDS; AUTOPSIES; AGE; DDE; HEXACHLOROCYCLOHEXANE	Hashemy-Tonkabony, S.E. Soleimani-Amiri, M.J. 1978
511 Adipose		GC GC-EC	a) 5 b) 9	a) 0-1.58 ppm b) 0-0.83 ppm	a) 0.5378 ppm b) 0.1178 ppm	a) Control-adjacent to breast tissue b) Adjacent to malignant breast tissue Values represent the concentrations in extracted lipids. Malignant tissue, adjacent to appareatly normal glandular and adipose tissue of nine women with adenocarcincma of the breast, obtained from the A.C. Camargo Hospital in Sao Paulo. Mammary gland and adjacent adipose tissue from 5 healthy women who died accidentally used for controls. BREAST; MAMMARY GLANDS; NEOPLASMS; ADIPOSE TISSUE; CARCINOMAS; PESTICIDES; LIPIDS; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; BIPHENYL COMPOUNDS; DIELDRIN; POLYCHLORINATED BIPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Wassermann, M. Nogueira, D.P. Tomatis, L. Mirra, A.P. Shibata, H. Arie, G. Cucos, S. Wassermann, D. 1976

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Ethane, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(2,2-dichloroethylidene)bis(4-chloro- (9 CI)
72-54-8
C14-H10-C14
MW 350.46, MP 221-222 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
512 Adipose		CC GC-EC	8	Not given	9.2622 ppm	In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent Cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DIT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977
513 Amniotic fluid		CC GC-EC	4	Not given	9.1810 ppm	In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent Cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DIT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977

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Ethane, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(2,2-dichloroethylidene)bis(4-chloro- (9 CI)
72-54-8
C14-H10-Cl4
MW 350.46, MP 221-222 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
514 Blood		GC-EC	22	0.02-0.03 ug/ml	Not given	Found in 2 cases out of 22 occupational exposures. Subjects exposed to insecticides in different ways, e.g., mixing, spraying, supervision of aerial spraying, and insect counting in recently sprayed fields. BLOOD; INSECTICIDES; CROP DUSTING; CHLORINE ORGANIC COMPOUNDS; OCCUPATIONAL HAZARDS; SUDAN; PESTICIDES; CHLORINATED HYDROCARBONS; DDE; DDT; DIELDRIN; DDD	El Zorgani, G.A. Musa, A. 1976
515 Blood		GC GC-EC	a) 24 b) 23	Not given	a) 0.3327 ppm b) 0.9365 ppm	a) Maternal b) Fetal Twenty-four women and their offspring were studied during labor. Eight cases underwent Cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DDT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977

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Ethane, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(2,2-dichloroethylidene)bis[4-chloro- (9 CI)
72-54-8
C14-H10-C14
MW 250.96, MP 221-222 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
516 Mammary gland		GC GC-EC	a) 5 b) 9	a) 0.33-0.86 ppm b) 0-0.84 ppm	a) 0.5493 ppm b) 0.2426 ppm	a) Control b) Breast tissue adjacent to malignancy Values represent the concentrations in extracted lipids. Malignant tissue, adjacent to apparently normal glandular and adipose tissue of nine women with adenocarcinoma of the breast, obtained from the A.C. Camargo Hospital in Sao Paulo. Mammary gland and adjacent adipose tissue from 5 healthy women who died accidentally used for controls. BREAST; MAMMARY GLANDS; NEOPLASMS; ADIPOSE TISSUE; CARCINOMAS; PESTICIDES; LIPIDS; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; BIPHENYL COMPOUNDS; DIELDRIN; POLYCHLORINATED BIPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE; DDD; HEPTACHLOR EPOXIDE	Wassermann, M. Nogueira, D.P. Tomatis, L. Mirra, A.P. Shibata, H. Arie, G. Cucos, S. Wassermann, D. 1976
517 Milk		GC-EC	a) 5 b) 5	a, Not given b) Not given	a) <0.001 ppm (trace) b) <0.001 ppm (trace)	a) Breast-feeding mothers with one child b) Breast-feeding mothers with twins Data for 1978 Two groups of breast-feeding mothers, one group feeding one infant and the other group feeding twins. PESTICIDES; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BREAST; INFANTS; FOODS	Adamovic, V.M. Sokic, B. Smiljanski, M-J 1978

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Ethane, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(2,2-dichloroethylidene)bis(4-chloro- (9 CI)
72-54-8
C14-H10-Cl4
MW 350.46, MP 221-222 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
518 Placenta		CC GC-EC	19	Not given	0.3413 ppm	In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent Cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DIT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977
519 Uterus		CC GC-EC	7	Not given	0.4224 ppm	In extracted lipids of uterine muscle. Twenty-four women and their offspring were studied during labor. Eight cases underwent Cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DIT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977

Ethane, 1,1,1-trichloro-
71-55-6
C2-H3-Cl3
MW 133.42, MP -30.41 C, BP 74.1 C, VP 100 mm Hg at 20 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
520 Blood	Inhalation	GC	1	Not applicable	30 mg/l1	Samples from deceased 20 yr old white male Heart dilated, myocardium flabby. Acute congestion and edema of lungs. Skin slippage on forearm. FORENSIC MEDICINE; CASE HISTORIES; CHLORINATED HYDROCARBONS; HEALTH HAZARDS; BLOOD; LIVER; BRAIN	Bonventre, J. Brennan, O. Jason, D. Henderson, A. Bastos, M.L. 1978
521 Lung	Inhalation	GC	1	Not applicable	28 mg/100g	Samples from deceased 20 yr old white male Heart dilated, myocardium flabby. Acute congestion and edema of lungs. Skin slippage on forearm. FORENSIC MEDICINE; CASE HISTORIES; CHLORINATED HYDROCARBONS; HEALTH HAZARDS; BLOOD; LIVER; BRAIN	Bonventre, J. Brennan, O. Jason, D. Henderson, A. Bastos, M.L. 1978

Ethane, 1,1,1-trichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)- (8 CI)
Benzene, 1-chloro-2-(2,2,2-trichloro-1-(4-chlorophenyl)ethyl)- (9 CI)
789-02-6
C14-H9-Cl5
MW 354.49, MP 74-78.5 C (cor)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
522 Adipose		GC-EC	1	Not applicable	300 ppb	Professional pest control operator Bile, gallstone, adipose fat obtained from a pest control worker who underwent cholecystectomy. Bile obtained from T-tube drainage of 5 hospitalized patients (who had not been associated with pesticide-using industries) following cholecystectomies. BILE; PESTICIDES; DIELDRIN; CHLORINATED HYDROCARBONS; LIVER; DDT; DDE; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE; OCCUPATIONAL HAZARDS; ARIZONA; BLOOD SERUM; ADIPOSE TISSUE	Paschal, E.H. Roan, C.C. Morgan, D.P. 1974
523 Adipose		CC GC-EC	a) 5 b) 9	a) 0-0.12 ppm b) 0-5.80 ppm	a) 0.06646 ppm b) 1.7417 ppm	a) Control-adjacent to breast tissue b) Adjacent to malignant breast tissue Values represent the concentrations in extracted lipids. Malignant tissue, adjacent to apparently normal glandular and adipose tissue of nine women with adenocarcinoma of the breast, obtained from the A.C. Camargo Hospital in Sao Paulo. Mammary gland and adjacent adipose tissue from 5 healthy women who died accidentally used for controls. BREAST; MAMMARY GLANDS; NEOPLASMS; ADIPOSE TISSUE; CARCINOMAS; PESTICIDES; LIPIDS; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; BIPHENYL COMPOUNDS; POLYCHLORINATED BIPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE; DDD; HEPTACHLOR EPOXIDE	Wassermann, M. Nogueira, D.P. Tomatis, L. Mirra, A.P. Shibata, H. Arie, G. Cucos, S. Wassermann, D. 1976

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Ethane, 1,1,1-trichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)- (8 CI)
Benzene, 1-chloro-2-(2,2,2-trichloro-1-(4-chlorophenyl)ethyl)- (9 CI)
789-02-6
C14-H9-Cl5
MW 354.89, BP 78-74.5 C (cor)

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
524 Adipose		GC GC-EC	8	Not given	0.3592 ppm	In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DIT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977
525 Amniotic fluid		GC GC-EC	4	Not given	15.9252 ppm	In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DIT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977

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Ethane, 1,1,1-trichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)- (8 CI)
Benzene, 1-chloro-2-(2,2,2-trichloro-1-(4-chlorophenyl)ethyl)- (9 CI)
789-02-6
C14-H9-Cl5
MW 354.49, BP 74-74.5 C (cor)

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
526 Bile		GC-EC	a) 1 b) 5	a) Not applicable b) 0.0-0.2 ppb	a) 1 ppb b) 0.06 ppb	a) Professional pest control operator b) Control patients Bile, gallstone, and adipose fat obtained from a pest control worker who underwent cholecystectomy. Bile obtained from T-tube drainage of 5 hospitalized patients (who had not been associated with pesticide-using industries) following cholecystectomies. BILE; PESTICIDES; DIELDRIN; CHLORINATED HYDROCARBONS; LIVER; DDT; DDE; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE; OCCUPATIONAL HAZARDS; ARIZONA; BLOOD SERUM; ADIPOSE TISSUE	Paschal, E.H. Roan, C.C. Morgan, D.P. 1974
527 Blood		CC GC-EC	a) 24 b) 23	a) Not given b) Not given	a) 0.5626 ppm b) 1.2944 ppm	a) Maternal b) Fetal In extracted lipids Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DDT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977

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Ethane, 1,1,1-trichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)- (8 CI)
Benzene, 1-chloro-2-(2,2,2-trichloro-1-(4-chlorophenyl)ethyl)- (9 CI)
789-02-6
C14-H9-Cl5
MW 354.49, BP 74-74.5 C (cor)

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
528 Blood, serum		GC-EC	1	Not applicable	2 ppb	Professional pest control operator Bile, gallstone, and adipose fat obtained from a pest control worker who underwent cholecystectomy. Bile obtained from T-tube drainage of 5 hospitalized patients (who had not been associated with pesticide-using industries) following cholecystectomies. BILE; PESTICIDES; DIELDRIN; CHLORINATED HYDROCARBONS; LIVER; DDT; DDE; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE; OCCUPATIONAL HAZARDS; ARIZONA; BLOOD SERUM; ADIPOSE TISSUE	Paschal, E.H. Roan, C.C. Morgan, D.P. 1974
529 Gall stone		GC-EC	1	Not applicable	2 ppb	Professional pest control operator Bile, gallstone, and adipose fat obtained from a pest control worker who underwent cholecystectomy. Bile obtained from T-tube drainage of 5 hospitalized patients (who had not been associated with pesticide-using industries) following cholecystectomies. BILE; PESTICIDES; DIELDRIN; CHLORINATED HYDROCARBONS; LIVER; DDT; DDE; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE; OCCUPATIONAL HAZARDS; ARIZONA; BLOOD SERUM; ADIPOSE TISSUE	Paschal, E.H. Roan, C.C. Morgan, D.P. 1974

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Ethane, 1,1,1-trichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)- (8 CI)
Benzene, 1-chloro-2-(2,2,2-trichloro-1-(4-chlorophenyl)ethyl)- (9 CI)
789-02-6
C14-H9-Cl5
MW 354.49, BP 74-74.5 C (cor)

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
530 Mammary gland		CC GC-EC	a) 5 b) 9 c) 9	a) 0.21-1.17 ppm b) 0-12.19 ppm c) 0-2.28 ppm	a) 0.7775 ppm b) 2.8487 ppm c) 1.0044 ppm	a) Control b) Malignant c) Breast tissue adjacent to malignancy Malignant tissue, adjacent to apparently normal glandular and adipose tissue of nine women with adenocarcinoma of the breast, obtained from the A.C. Camargo Hospital in Sao Paulo. Mammary gland and adjacent adipose tissue from 5 healthy women who died accidentally used for controls. BREAST; MAMMARY GLANDS; NEOPLASMS; ADIPOSE TISSUE; CARCINOMAS; PESTICIDES; LIPIDS; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; BIPHENYL COMPOUNDS; DIELDRIN; POLYCHLORINATED BIPHENYLS; DDT; DDP; HEXACHLOROCYCLOHEXANE; DDD; HEPTACHLOR EPOXIDE	Wassermann, M. Nogueira, D.P. Tomatis, L. Mirra, A.P. Shibata, H. Arie, G. Cucos, S. Wassermann, D. 1976
531 Milk		GC-EC	a) 5 b) 5	a) Not given b) Not given	a) 2.9 gamma/day b) 3.3 gamma/day	a) Breast-feeding mothers with one child b) Breast-feeding mothers with twins. Data for 1974 Two groups of breast-feeding mothers, one group feeding one infant and the other group feeding twins. PESTICIDES; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BREAST; INFANTS; FOODS	Adamovic, V.M. Sokic, B. Smiljanski, M-J 1978

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Ethane, 1,1,1-trichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)- (8 CI)
Benzene, 1-chloro-2-(2,2,2-trichloro-1-(4-chlorophenyl)ethyl)- (9 CI)
789-02-6
C14-H9-Cl5
MW 354.49, BP 78-78.5 C (cor)

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
532 Placenta		CC GC-EC	19	Not given	0.7209 ppm	In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DIT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977
533 Uterus		CC GC-EC	7	Not given	1.0288 ppm	In extracted lipids of uterine muscle. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DIT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977

Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)
50-29-3
$C_{14}H_9Cl_5$
MW 354.50, MP 108.5-109 C, BP 260 C, VP 1.5X10(E-7) mm Hg at 20 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
538 Adipose	Inhalation	GC	143	a) Not given b) Not given c) Not given d) Not given	a) 1.7 ppm b) 0.9 ppm c) 2.0 ppm d) 1.3 ppm	a) 18 females, black b) 10 females, white c) 20 males, black d) 35 males, white Values for 64 controls ranged from 0.8-2.5 ppm. Samples from autopsies obtained during 1973-1974 at Medical College of Pennsylvania, Philadelphia and from patients undergoing abdominal surgery at Veterans Hospital, Durham, NC. Cigarette smoke ADIPOSE TISSUE; INSECTICIDES; TOBACCOS; SMOKING; AUTOPSIES; CHLORINATED HYDROCARBONS; PESTICIDES; DDT; DIELDRIN; PENNSYLVANIA; NORTH CAROLINA; RACIAL STUDIES	Domanski, J.J. Nelson, L.A. Guthrie, F.E. Domanski, R.E. Mark, R. Postlethwait, R.W. 1977
535 Adipose		GC-EC	1	Not applicable	2,700 ppb	Professional pest control operator Bile, gallstone, and adipose fat obtained from a pest control worker who underwent cholecystectomy. Bile obtained from T-tube drainage of 5 hospitalized patients (who had not been associated with pesticide-using industries) following cholecystectomies. BILE; PESTICIDES; DIELDRIN; CHLORINATED HYDROCARBONS; LIVER; DDT; DDE; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE; OCCUPATIONAL HAZARDS; ARIZONA; BLOOD SERUM; ADIPOSE TISSUE	Panchal, E.H. Boan, C.C. Morgan, D.P. 1974

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Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9 CI)
50-29-3
C14-H9-Cl5
MW 354.50, MP 108.5-109 C, BP 260 C, VP 1.5X10(E-7) mm Hg at 20 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
536 Adipose		CC GC-EC		a) Not given b) Not given c) Not given d) Not given	a) 2.32 ppm b) 4.47 ppm c) 6.97 ppm d) 8.88 ppm	a) 0-14 age group, 1974 b) 0-14 age group, 1970 c) 45 and older age group, 1974 d) 45 and older age group 1970 Samples from Negroes had almost twice as much total residues as did Caucasion samples. Samples (postmortem examinations and specimens removed during surgery) obtained from cooperating medical pathologists at sites selected by Human Monitoring Survey design covering the conterminous 48 states. ADIPOSE TISSUE; AUTOPSIES; PESTICIDES; POPULATION EXPOSURE; PESTICIDE RESIDUES; AGE	Kutz, F.W. Yobs, A.R. Strassman, S.C. Viar, J.F. Jr. 1977
537 Adipose		GC-EC	a) 774 b) 115	a) Maximum value: 89.06 ppm b) Maximum value: 76.39 ppm	a) 4.65 ppm b) 8.33 ppm	a) Caucasian b) Negro 75 collecting sites throughout the U.S.A. Sample quota allocated proportionally according to age, sex, and race distribution in the 1970 Census. Adipose tissue from postmortem examinations and surgical specimens. ADIPOSE TISSUE; PESTICIDES; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; AUTOPSIES; SURGERY; RACIAL STUDIES; DDT; DIELDRIN; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE; OXYCHLORDANE	Kutz, F.W. Yobs, A.R. Strassman, S.C. 1977

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Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)
50-29-3
C14-H9-C15
MW 354.50, MP 108.5-109 C, BP 260 C, VP 1.5X10(E-7) mm Hg at 20 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
538 Adipose		GC-EC	1412	0-270.05 ppm	11.65 ppm	Total DDT equivalent. Samples of adipose tissue obtained through pathologists in 32 cities in the U.S.A. ADIPOSE TISSUE; PESTICIDES; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; AUTOPSIES; DDT; DIELDRIN; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE	Kutz, F.W. Yobs, A.R. Johnson, W.G. Wiersma, G.B. 1974b
539 Adipose		GC-EC	170	0.064-25.92 ppm	2.64ppm	Subcutaneous adipose tissue of the abdomen from 170 autopsy cases of sudden death collected at Medicolegal Center of Tehran. Ages from 4-91 years. PESTICIDES; ADIPOSE TISSUE; IRAN; CHLORINATED HYDROCARBONS; DIELDRIN; DDT; BIOACCUMULATION; METABOLITES; CHLORINE ORGANIC COMPOUNDS; AUTOPSIES; AGE; DDE; HEXACHLOROCYCLOHEXANE	Hashemy-Tonkabony, S.E. Soleimani-Amiri, M.J. 1978

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Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)
50-29-3
C14-H9-Cl5
MW 354.50, MP 108.5-109 C, BP 260 C, VP 1.5X10(E-7) mm Hg at 20 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
540 Adipose		CC GC-EC	a) 5 b) 9	a) 1.24-5.78 ppm b) 0.15-1.46 ppm	a) 3.4004 ppm b) 0.7582 ppm	a) Control-adjacent to breast tissue b) Adjacent to malignant breast tissue The values represent the concentrations in extracted lipids. Malignant tissue, adjacent to apparently normal glandular and adipose tissue of nine women with adenocarcinoma of the breast, obtained from the A.C. Camargo Hospital in Sao Paulo. Mammary gland and ajacent adipose tissue from 5 healthy women who died accidentally used for controls. BREAST; MAMMARY GLANDS; NEOPLASMS; ADIPOSE TISSUE; CARCINOMAS; PESTICIDES; LIPIDS; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; BIPHENYL COMPOUNDS; DIELDRIN; POLYCHLORINATED BIPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Wassermann, M. Nogueira, D.P. Tomatis, L. Mirra, A.P. Shibata, H. Arie, G. Cucos, S. Wassermann, D. 1976
541 Adipose		CC GC	30	0.20-1.44 ppm	0.68 ppm	30 samples of adipose tisue obtained from 18 males and 12 females in Tokyo in 1974. Blood collected from 10 subjects in 1975. BLOOD; ADIPOSE TISSUE; PESTICIDES; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; JAPAN; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED TERPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE	Fukano, S. Doguchi, H. 1977

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Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9 CI)
50-29-3
C14-H9-Cl5
MW 354.50, MP 108.5-109 C, BP 260 C, VP 1.5X10(E-7) mm Hg at 20 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
542 Adipose		CC GC-EC	8	Not given	0.7212 ppm	In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent Cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; DDT; POLYCHLORINATED BIPHENYLS; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE; DDD	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977
543 Adipose		GC	a) 8 b) 8	a) 210-723 ng/g b) 129-1201 ng/g	a) 330 ng/g b) 526 ng/g	a) Before intestinal bypass surgery b) After surgery 5 women undergoing surgery for massive obesity. PESTICIDES; CHLORINATED HYDROCARBONS; INTESTINES; SURGERY; ADIPOSE TISSUE; BLOOD PLASMA; METABOLISM	Backman, L. Kolmodin-Hedman, B. 1978
544 Amniotic fluid		CC GC-EC	4	Not given	13.0856 ppm	In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent Cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE; DDD; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977

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Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)
50-29-3
C14-H9-Cl5
MW 354.50, MP 108.5-109 C, BP 260 C, VP 1.5X10(E-7) mm Hg at 20 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
545 Bile		GC-EC	a) 1 b) 5	a) Not applicable b) 0.0-0.7 ppb	a) 3 ppb b) 0.3 ppb	a) Professional pest control operator b) Control patients Bile, gallstone, and adipose fat obtained from a pest control worker who underwent cholecystectomy. Bile obtained from T-tube drainage of 5 hospitalized patients (who had not been associated with pesticide-using industries) following cholecystectomies. BILE; PESTICIDES; DIELDRIN; CHLORINATED HYDROCARBONS; LIVER; DDT; DDE; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE; OCCUPATIONAL HAZARDS; ARIZONA; BLOOD SERUM; ADIPOSE TISSUE	Paschal, E.H. Roan, C.C. Morgan, D.P. 1974
546 Blood		GC-EC	22	0.01-1.01 ug/ml	0.11 ug/ml	Subjects exposed to insecticides in different ways, e.g., mixing, spraying, supervision of aerial spraying, and insect counting in recently sprayed fields. BLOOD; INSECTICIDES; CROP DUSTING; CHLORINE ORGANIC COMPOUNDS; OCCUPATIONAL HAZARDS; SUDAN; PESTICIDES; CHLORINATED HYDROCARBONS; DDE; DDT; DIELDRIN; DDD	El Zorgani, G.A. Musa, A. 1976

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Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)
50-29-3
C14-H9-Cl5
MW 354.50, MP 108.5-109 C, BP 260 C, VP 1.5X10(E-7) mm Hg at 20 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
547 Blood		CC GC-EC	a) 24 b) 23	Not given	a) 0.9742 ppm b) 2.4938 ppm	a) Maternal b) Fetal In extracted lipids Twenty-four women and their offspring were studied during labor. Eight cases underwent Cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE; DDD	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977
548 Blood, plasma		CC GC-EC	a) 39 b) 15 c) 216 d) 32	a) Trace-19.3 ppb b) 5.4-17.9 ppb c) 0.8-128.6 ppb d) 3.6-47.6 ppb	a) 6.70 ppb b) 12.58 ppb c) 11.32 ppb d) 10.60 ppb	a) Self defense army-female b) University Hospital-male c) Farmer-female d) Pesticide factory worker-male Groups of "normal" and "suppcsedly exposed" included officers of Japanese self-defense army, staff members of University hospital, medical students, workers in a pesticide factory and farmers as well as 130 pairs of mother's blood plasma and umbilical cord. PESTICIDES; CHLORINE ORGANIC COMPOUNDS; OCCUPATIONAL HAZARDS; BLOOD PLASMA; PREGNANCY; UMBILICAL CORD; PLACENTA; POPULATION EXPOSURE; JAPAN	Yamaguchi, S. Kaku, S. Kuwahara, Y. Yamada, A. 1976

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Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)
50-29-3
C14-H9-Cl5
MW 354.50, MP 108.5-109 C, BP 260 C, VP 1.5X10(E-7) mm Hg at 20 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
549 Blood, plasma		GC	a) 8 b) 8 c) 5	a) <3.0-4.5 ng/ml b) <3.0-5.5 ng/ml c) Not given	a) Not given b) Not given c) 3 ng/ml	a) Before intestinal bypass surgery b) After surgery c) Controls - 1977 5 women and 3 men undergoing surgery for massive obesity. PESTICIDES; CHLORINATED HYDROCARBONS; INTESTINES; SURGERY; ADIPOSE TISSUE; BLOOD PLASMA; METABOLISM	Backman, L. Kolmodin-Hedman, B. 1978
550 Blood, serum		GC-EC	1,035	a) Not given b) Not given c) Not given d) Not given e) 2.36-30.86 ppb f) 9.1-12.0 ppb	a) 6.52 ppb b) 8.98 ppb c) 5.69 ppb d) 6.96 ppb e) 5.76 ppb f) 10.56 ppb	a) 516 males b) 494 females c) 884 no occupational exposure d) 67 possible occupational exposure e) Overall sample - 960 cases, by county of residence f) 28 control sera Samples from 1,035 volunteers representing 38 counties participating in Adult Health Screening Program from August 1968 to April 1970. Occupations grouped in categories as related to pesticides, not related to pesticides, and unknown. Race was excluded as a variable. Agricultural application BLOOD SERUM; CHLORINATED HYDROCARBONS; PESTICIDES; RURAL AREAS; AGRICULTURE; DDE; DDT; DIELDRIN; MICHIGAN	Bloomer, A.W. Nash, S.I. Price, H.A. Welch, R.L. 1977

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Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)
50-29-3
C14-H9-Cl5
MW 354.50, MP 108.5-109 C, BP 260 C, VP 1.5X10(E-7) mm Hg at 20 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
551 Blood, serum			3,568	Not given	5.1 ppb	Normal subjects Individuals attending the health appraisal center at the Pacific Health Research Institute in July 1969 to December 1970. CHLORINE ORGANIC COMPOUNDS; PESTICIDES; BLOOD SERUM; CHOLESTEROLS; HAWAII; BIOACCUMULATION	Rashad, M.N. Ai, M.P. Klemmer, H.W. Rudy, A.M. Reichert, E.L. 1976
552 Blood, serum		GC-EC	1	Not applicable	11 ppb	Professional pest control operator Bile, gallstone, and adipose fat obtained from a pest control worker who underwent cholecystectomy. Bile obtained from T-tube drainage of 5 hospitalized patients (who had not been associated with pesticide-using industries) following cholecystectomies. BILE; PESTICIDES; DIELDRIN; CHLORINATED HYDROCARBONS; LIVER; DDT; DDE; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE; OCCUPATIONAL HAZARDS; ARIZONA; BLOOD SERUM; ADIPOSE TISSUE	Paschal, E.H. Boan, C.C. Morgan, D.P. 1974

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Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)
50-29-3
C14-H9-Cl5
MW 354.50, MP 108.5-109 C, BP 260 C, VP 1.5X10(E-7) mm Hg at 20 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
553 Blood, serum		GC	350 pairs of mothers, newborns	a) 28-422 ppb b) 9-292 ppb c) 16-303 ppb d) 7-99 ppb e) 12-160 ppb f) 3-56 ppb g) 7-126 ppb h) 4-46 ppb	a) 120 ppb b) 44 ppb c) 95 ppb d) 33 ppb e) 53 ppb f) 18 ppb g) 36 ppb h) 14 ppb	a) Mothers, black, rural b) Newborn, black, rural c) Mothers, black, urban d) Newborn, black, urban e) Mothers, white, rural f) Newborn, white, rural g) Mothers, white, urban h) Newborn, white, urban Values derived from graph Blood serum from routine blood samples of mothers and cord blood of newborn in hospitals in the Mississippi Delta. Newborn included 339 full-term and 11 premature infants. No mother lived more than 2.5 miles from a cultivated area. No newborn found to have signs or symptoms of chlorinated hydrocarbon poisoning. Agricultural application CHLORINATED HYDROCARBONS; BLOOD SERUM; FETUS; PLACENTA; ABORTION; PREGNANCY; INSECTICIDES; URBAN AREAS; RURAL AREAS; PESTICIDES; DDT	D'Ercole, A.J. Arthur, R.D. Cain, J.D. Barrentine, B.F. 1976
554 Blood, serum			a) 8 b) 3	a) 3.2-15.0 ppb b) 2.6-5.9 ppb	a) 6.8 ppb b) 4.1 ppb	a) Persons applying pesticides b) Controls Values are for serum. Samples from exposed farmers and nonoccupationally exposed controls in Michigan. PESTICIDES; OCCUPATIONAL HAZARDS; BLOOD SERUM; SKIN; AGRICULTURE; MICHIGAN; BIOACCUMULATION; DDT; DDE; DIELDRIN	Kazen, C. Bloomer, A. Welch, R. Oudbier, A. Price, H. 1974

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Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)
50-29-3
C14-H9-Cl5
MW 354.50, MP 108.5-109 C, BP 260 C, VP 1.5X10(E-7) mm Hg at 20 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
555 Blood, serum		GC-EC	a) 29 b) 9	a) <0.002 ppm b) 0.002-0.003 ppm	a) Not given b) Not given	Eskimo children. 19 males and 19 females, aged 6-17 yr, from Hooper Bay, Alaska DDT; PESTICIDES; BLOOD SERUM; ALASKA; POPULATION EXPOSURE; DDE	Serat, W.F. Lee, M.K. Van Loon, A.J. Mengle, D.C. Ferguson, J. Burks, J.M. Bender, T.R. 1977
556 Fetal		CC GC-EC	15	a) Not detectable-0.99 ppm b) Not detectable-0.0049 ppm	a) 0.11 ppm b) 0.0004 ppm	a) lipid extractable material b) Whole tissue Fetal tissue includes fetus, cord, amnion, chorion, and chorionic villi 3 months or less in development. Samples from residents of Hawaii collected from 1964-1973 PESTICIDES; HAWAII; FETUS; FETAL MEMBRANES; MILK; UTERUS; BLOOD SERUM; DDT; DDE; DIELDRIN	Klemmer, H.W. Budy, A.M. Takahashi, W. Maley, T.J. 1977
557 Gall stone		GC-EC	1	Not applicable	11 ppb	Professional pest control operator Bile, gallstone, and adipose fat obtained from a pest control worker who underwent cholecystectomy. Bile obtained from T-tube drainage of 5 hospitalized patients (who had not been associated with pesticide-using industries) following cholecystectomies. BILE; PESTICIDES; DIELDRIN; CHLORINATED HYDROCARBONS; LIVER; DDT; DDE; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE; OCCUPATIONAL HAZARDS; ARIZONA; BLOOD SERUM; ADIPOSE TISSUE	Paschal, E.H. Egan, C.C. Morgan, D.P. 1974

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Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)
50-29-3
C14-H9-Cl5
MW 354.50, MP 108.5-109 C, BP 260 C, VP 1.5X10(E-7) mm Hg at 20 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
558 Hair		GC	9	0.01-0.10 ppm	0.06 ppm	DDT components On 2 occasions, 4 months apart, 5 samples of hair representing a composite of 5 or more individuals were collected over a one-week period from a barber's shop. HAIR; CHLORINATED HYDROCARBONS; DIELDRIN; BIPHENYL COMPOUNDS; LIPIDS; PESTICIDES; INSECTICIDES; POLYCHLORINATED BIPHENYLS; DIELDRIN; DDT; NORTH CAROLINA	Matthews, H.B. Domanski, J.J. Guthrie, F.E. 1976
559 Mammary gland		CC GC-EC	a) 5 b) 9 c) 9	a) 1.58-8.24 ppm b) 1.35-6.40 ppm c) 0.39-2.81 ppm	a) 3.5536 ppm b) 4.3978 ppm c) 1.4266 ppm	a) Control b) Malignant c) Breast tissue adjacent to malignancy The values represent the concentrations in extracted lipids. Malignant tissue, adjacent to apparently normal glandular and adipose tissue of nine women with adenocarcinoma of the breast, obtained from the A.C. Camargo Hospital in Sao Paulo. Mammary gland and adjacent adipose tissue from 5 healthy women who died accidentally used for controls. BREAST; MAMMARY GLANDS; NEOPLASMS; ADIPOSE TISSUE; CARCINOMAS; PESTICIDES; LIPIDS; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; BIPHENYL COMPOUNDS; DIELDRIN; POLYCHLORINATED BIPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE; DDD	Wassermann, M. Noqueira, D.P. Tomatis, L. Mirca, A.P. Shibata, H. Arie, G. Cucos, S. Wassermann, D. 1976

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Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)
50-29-3
C14-H9-C15
MW 354.50, MP 108.5-109 C, BP 260 C, VP 1.5X10(E-7) mm Hg at 20 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
560 Milk		CC GC/MS	a) 6 b) 9	a) 0.006-0.030 ppm b) 0.002-0.011 ppm	a) 0.013 ppm b) 0.006 ppm	a) New Brunswick women b) Nova Scotia women Six lactating mothers from New Brunswick and 9 from Nova Scotia. MILK; BREAST; CANADA; PESTICIDES; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; LACTATION; POLYCHLORINATED BIPHENYLS; DDT; DDE	Musial, C.J. Hutzinger, O. Zitko, V. Crocker, J. 1974
561 Milk		CC GC-EC	6	a) Not detectable-2.45 ppm b) Not detectable-0.20 ppm	0.61 ppm 0.03 ppm	a) Values for milk fat b) Values for whole milk Samples from residents of Hawaii collected from 1964-1973 PESTICIDES; HAWAII; FETUS; FETAL MEMBRANES; MILK; UTERUS; BLOOD SERUM; DDT; DDE; DIELDRIN	Klemmer, H.W. Budy, A.M. Takahashi, W. Maley, T.J. 1977
562 Milk		TLC GC	a) 14 b) 59 c) 15 d) 97	a) 28-61 ug/kg b) 10-35 ug/kg c) 9-19 ug/kg d) 6.6-19 ug/kg	a) 40 ug/kg b) 18 ug/kg c) 13.5 ug/kg d) 10 ug/kg	a) Apr-July 1967 b) Nov 1971-Dec 1972 c) June-Nov 1974 d) Mar 1975-Mar 1977 Each case represents a pooled sample from 10-20 mothers. Samples from women in Stockholm, Sweden. PESTICIDES; SWEDEN; MILK; BIPHENYL COMPOUNDS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES; POLYCHLORINATED BIPHENYLS; DIELDRIN; DDT; DDE; HEXACHLOROCYCLOHEXANE	Westoo, G. Noren, K. 1978

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Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)
50-29-3
C14-H9-C15
MW 354.50, MP 108.5-109 C, BP 260 C, VP 1.5X10(E-7) mm Hg at 20 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
563 Milk		GC	2	0.24-0.71 ug	0.48 ug	Amounts varied for different feedings. Values are daily total. Samples from donors at various times of breast feeding and at different times of the day. MILK; PESTICIDES; PESTICIDE RESIDUES; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; HEXACHLOROBENZENE; DDT; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE; OXYCHLORDANE; NONACHLOR; DDE; DIELDRIN	Mes, J. Davies, D.J. 1978
564 Milk		GC-EC	a) 5 b) 5	a) Not given b) Not given	a) 41 gamma/day b) 34 gamma/day	a) Breast-feeding mothers with one child b) Breast-feeding mothers with twins. Data for 1974 Two groups of breast-feeding mothers, one group feeding one infant and the other group feeding twins. PESTICIDES; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BREAST; INFANTS; FOODS	Adamovic, V.M. Sokic, M. Smiljanski, M-J 1978

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Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9 CI)
50-29-3
C14-H9-C15
MW 354.50, MP 108.5-109 C, BP 260 C, VP 1.5X10(E-7) mm Hg at 20 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
565 Milk, whole		GC-EC	290	0.003-5.686 ppm	0.378 ppm	All 290 samples showed measurable quantities of p,p'-DDT and p,p'DDE. Some showed o,p'-DDT and p'p'-DDD. P,p'-DDE and P,p'-DDD amounts were adjusted to their equivalent ppm DDT in making up the total. Differences in levels in communities associated with use of DDT by National Malaria Eradication Service. Comparison done of levels in mother's milk from 3 communities in 1970 and 1974. Milk samples collected from 290 lactating women by manual expression under supervision. Eight communities studied. MILK; GUATEMALA; INSECTICIDES; LACTATION; CHLORINATED HYDROCARBONS; PESTICIDES	Winter, M. Thomas, M. Wernick, S. Levin, S. Parvar, M.T. 1976
566 Milk, whole		GC-EC	57	0.01-0.84 ppm	0.092 ppm	Samples from 17 Negroes and 40 Caucasians in hospitals in Arkansas and Mississippi. Agricultural application on rice fields PESTICIDES; PESTICIDE RESIDUES; MILK; POPULATION EXPOSURE; MAMMARY GLANDS; LACTATION; BIOACCUMULATION; MISSISSIPPI; ARKANSAS; PLACENTA	Strassman, S.C. Kutz, F.W. 1977

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Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)
50-29-3
C14-H9-Cl5
MW 354.50, MP 108.5-109 C, BP 260 C, VP 1.5X10(E-7) mm Hg at 20 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
567 Milk, whole		TLC GC/MS GC-EC	57	0.01-0.84 ppm	0.09 ppm	100% positive samples Samples from residents of Arkansas and Mississippi PESTICIDES; ADIPOSE TISSUE; MILK; URINE; BIOACCUMULATION; BIPHENYL COMPOUNDS; CHLORINATED HYDROCARBONS; ARKANSAS; MISSISSIPPI	Kutz, F.W. Strassman, S.C. Tobs, A.R. 1977
568 Milk, whole		GC-EC	a) 39 b) 92 c) 34	a) 0.029-0.345 ppm b) 0.004-0.158 ppm c) 0.012-0.273 ppm	a) 0.119 ppm b) 0.033 ppm c) 0.073 ppm	a) Mothers from Lisbon and Aveiro, Portugal b) Mothers from Braganca, Faro, Guarda, Porto, Viana do Castelo, Vila Real, and Viseu, Portugal c) Mothers from Evora, Portalegre, and Setubal, Portugal Samples taken in 1972. PESTICIDES; DDT; DDE; DIELDRIN; MILK; PORTUGAL	Graca, I. Fernandes, A.M.S.S. Mourao, H.C. 1974
569 Placenta		CC GC-EC	19	Not given	2.6175 ppm	In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent Cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE; DDD	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977

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Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)
50-29-3
C14-H9-C15
MW 354.50, MP 108.5-109 C, BP 260 C, VP 1.5X10(E-7) mm Hg at 20 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
570 Uterus		CC GC-EC	7	Not given	1.2558 ppm	In extracted lipids of uterine muscle. Twenty-four women and their offspring were studied during labor. Eight cases underwent Cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE; DDD	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977

Ethyl alcohol (8 CI)
Ethanol (9 CI)
64-17-5
C2-H6-O
MW 46.07, MP -117.3 C, BP 78.32 C, VP 40 mm Hg at 19 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
571 Blood	Ingestion	Enzymatic GC	1	a) 20-315 mg/100 ml b) 0-140 mg/100 ml	a) Not given b) Not given	a) Enzymatic method b) Gas chromatography Ranges obtained during 2 days, on each of which patient was given 100 ml 95% ethanol. Apparent good health, but mild brain damage seemingly due to drinking. BLOOD; ALCOHOLS	Altschule, M.D. Werthessen, N.T. Miller, S.A. 1977
572 Blood			604	a) 0.03-0.69 g/100 ml b) 0.03-0.36 g/100 ml c) 0.03-0.33 g/100 ml d) 0.07-0.36 g/100 ml e) 0.03-0.70 g/100 ml f) 0.03-0.31 g/100 ml	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) Death by natural causes, 70% of 212 cases b) Homicides, 85% of 163 cases c) Suicides, 75% of 47 cases d) Death by traffic accidents, 89% of 44 cases e) Death by other accidents, 80% of 80 cases f) Death cause not known, 70% of 58 cases Samples from 604 consecutive autopsies by the Chief Medical Examiner in the District of Columbia between August, 1974 and February, 1975. Includes all known or suspected unnatural deaths and sudden, unexpected deaths of apparently healthy persons under 65 years of age during the period of the study. ALCOHOLS; BLOOD; AUTOPSIES; DISTRICT OF COLUMBIA; FORENSIC MEDICINE	Riddick, L. Luke, J.L. 1978

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Ethyl alcohol (8 CI)
Ethanol (9 CI)
64-17-5
C2-H6-O
MW 46.07, MP -117.3 C, BP 78.32 C, VP 40 mm Hg at 19 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
573 Blood	Ingestion	GC	1	Not applicable	0.12%	Death from use of alcohol as a sedative. Male infant, age 1 yr. Disorientation, poor coordination. Brown liquid in left pleural space during open heart massage. Beverage ALCOHOLS; BLOOD; INFANTS; CASE HISTORIES	Richards, E.G. Cravey, R.H. 1978
574 Blood	Ingestion	Electrochem Enzymatic	9 (52 samples)	a) 0-1.40 mg/ml b) 0-1.40 mg/ml	a) 0.585 mg/ml b) 0.572 mg/ml	a) Electrochemical analysis of vapor phase of blood samples b) Enzymatic analysis Blood levels for 7 to 9 hr after 0.72 g/kg or 0.90 g/kg doses. Male subjects, mean age 41 yr, mean weight 75 kg. Alcoholic beverage DRUGS; ALCOHOLS; BLOOD; MEASUREMENT METHODS	Jones, A.W. 1978
575 Blood		GC	6	0-2.5 mg/g	1.03 mg/g	Samples of blood, liver and urine from fatal intoxications were collected at autopsy. AUTOPSIES; BLOOD; URINE; LIVER; DRUGS	Norheim, G. 1976

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Ethyl alcohol (8 CI)
Ethanol (9 CI)
64-17-5
C2-H6-O
MW 46.07, MP -117.3 C, BP 78.32 C, VP 40 mm Hg at 19 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
576 Blood			16	0.01-0.28%	0.08%	Deaths in which phencyclidine was also present in the blood. Cases investigated by the Maryland Medical Examiner in 1976 and 1977 in which phencyclidine was found: 36 whites, 1 black, 32 males, 5 females, age range, 16 to 42 yr. Causes of death included gunshot wounds, smoke and soot inhalation, drowning, drug intoxication. DRUGS; ALCOHOLS; DIAZEPAMS; CARBON INORGANIC COMPOUNDS; NARCOTICS; SEDATIVES; BLOOD; URINE; BILE; BRAIN; LIVER; KIDNEYS; DRUG ABUSE; AUTOPSIES; CASE HISTORIES; MARYLAND	Caplan, Y.H. Criloff, K.G. Thompson, B.C. Fisher, R.S. 1979
577 Blood			7	21-226 mg/100 ml	Not given	Death due to combined effects with antidepressant drugs. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, H. Holder, A.T. Powell, R. 1979
578 Blood, whole	Ingestion	GC/MS TLC	1	Not applicable	176 mg/100 ml	Autopsy of 43 yr old woman revealed approximately 40 100-mg Aptin tablets. DRUGS; AUTOPSIES; BLOOD; LIVER; ALCOHOLS; DRUG ABUSE	Dickson, S.J. Muirhead, J.M. Nelson, P.E. 1978

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Ethyl alcohol (8 CI)
Ethanol (9 CI)
64-17-5
C2-H6-O
MW 46.07, MP -117.3 C, BP 78.32 C, VP 40 mm Hg at 19 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
579 Urine			8	15-295 mg/100 ml	Not given	Death due to combined effects with antidepressant drugs. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, H. Holder, A.T. Powell, H. 1979

Ethylamine, N,N-dimethyl-2-[(o-methyl-alpha-phenylbenzyl)oxy]- (8 CI)
Ethanamine, N,N-dimethyl-2-[(2-methylphenyl)phenylmethoxy]- (9 CI)
83-98-7
C18-H23-N-O

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
580 Bile		GC	2	9.2-23.1 mg/l	16.1 mg/l	1 other drug also present. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, R. 1979
581 Blood		GC	2	a) 2.6-10.0 mg/l b) Not applicable	a) 6.3 mg/l b) 1.0 mg/l	a) Amitriptyline or dothiepin also present b) Liver blood of 1 case - amitriptyline also present. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, R. 1979
582 Urine		GC	2	1.4-1.9 mg/l	1.6 mg/l	1 other drug also present 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, R. 1979

Ethylene, tetrachloro- (8 CI)
Ethene, tetrachloro- (9 CI)
127-18-4
C2-Cl4, MW 165.85, BP 121 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
583 Blood	Inhalation	GC		a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given k) Not given	a) 1.9 ppm b) 2.9 ppm c) 3.8 ppm d) 1.0 ppm e) 0.8 ppm f) 8.2 ppm g) 1.8 ppm h) 1.3 ppm i) 1.6 ppm j) 0.3 ppm k) 0.7 ppm	a) Dose=150 ppm for 0.5 hr (male sedentary) b) Dose=150 ppm for 0.5 hr (male exercising) c) Dose=150 ppm for 7.5 hr males) d) Dose=150 ppm for 1.0 hr (males) e) Dose=100 ppm for 1.0 hr (females) f) Dose=100 ppm for 5.5 hr (males and females exercising.) g) Dose=100 ppm for 7.5 hr (males) h) Dose=100 ppm for 7.5 hr females) i) Dose=25 ppm for 5.5 hr (males and females with exercise j) Dose=20 ppm for 1 hr (males) k) Dose=20 ppm for 7.5 hr (males) Overexposure resulted in a comatose condition, cyanotic appearance, and a mild seizure. Proteinuria lasted 20 days and hematuria 8 days. Full recovery occurred in 21 days. CHLORINATED HYDROCARBONS; CASE HISTORIES; SKIN; BLOOD	Hake, C.L. Stewart, R.D. 1977

Ethylene, 1,1-dichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)- (8 CI)
Benzene, 1-chloro-2-(2,2-dichloro-1-(p-chlorophenyl)ethenyl)- (9 CI)
3424-82-6
C14-H8-Cl4
MW 318.03

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
584 Adipose		CC GC-EC	a) 5 b) 9	a) 0.04-0.19 ppm b) 0.07-1.20 ppm	a) 0.0890 ppm b) 0.3043 ppm	a) Control-adjacent to breast tissue b) Adjacent to malignant breast tissue Values represent the concentrations in extracted lipids. Malignant tissue, adjacent to apparently normal glandular and adipose tissue of nine women with adenocarcinoma of the breast, obtained from the A.C. Camargo Hospital in Sao Paulo. Mammary gland and adjacent adipose tissue from 5 healthy women who died accidentally used for controls. BREAST; MAMMARY GLANDS; NEOPLASMS; ADIPOSE TISSUE; CARCINOMAS; PESTICIDES; LIPIDS; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; BIPHENYL COMPOUNDS; DIELDRIN; POLYCHLORINATED BIPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE; DDD; HEPTACHLOR EPOXIDE	Wassermann, M. Nogueira, D.P. Tomatis, L. Mirra, A.P. Shibata, H. Arie, G. Cucos, S. Wassermann, D. 1976
585 Adipose		CC GC-EC	8	Not given	0.4242 ppm	In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DDT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977

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Ethylene, 1,1-dichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)- (8 CI)
Benzene, 1-chloro-2-(2,2-dichloro-1-(4-chlorophenyl)ethenyl)- (9 CI)
3424-82-6
C14-H8-Cl4
MW 318.03

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
586 Amniotic fluid		CC GC-EC	4	Not given	16.9487 ppm	In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DIT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977
587 Blood		CC GC-EC	a) 24 b) 27	a) Not given b) Not given	a) 0.7478 ppm b) 1.0278 ppm	a) Maternal b) Fetal In extracted lipids. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DIT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977

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Ethylene, 1,1-dichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)- (8 CI)
Benzene, 1-chloro-2-(2,2-dichloro-1-(4-chlorophenyl)ethenyl)- (9 CI)
3424-82-6
C14-H8-Cl4
MW 318.03

(CONTINUED)

TISSUE	PERCENTAGE BASIS	ANALYTICAL METHOD	GROUPS OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
488 Mammary gland		GC GC-EC	a) 5 b) 9 c) 9	a) 0.06-0.32 ppm b) 0.34-4.76 ppm c) 0.07-1.47 ppm	a) 0.1639 ppm b) 1.8589 ppm c) 0.5689 ppm	a) Control b) Malignant c) Breast tissue adjacent to malignancy Malignant tissue, adjacent to apparently normal glandular and adipose tissue of nine women with adenocarcinoma of the breast, obtained from the A.C. Camargo Hospital in Sao Paulo. Mammary gland and adjacent adipose tissue from 5 healthy women who died accidentally used for controls. BREAST; MAMMARY GLANDS; NEOPLASMS; ADIPOSE TISSUE; CARCINOMAS; PESTICIDES; LIPIDS; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; BIPHENYL COMPOUNDS; DIELDRIN; POLYCHLORINATED BIPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE; DDD; HEPTACHLOR EPOXIDE	Wassermann, M. Nogueira, D.P. Tomatis, L. Mirra, A.P. Shibata, H. Arie, G. Cucos, S. Wassermann, D. 1976
589 Placenta		GC GC-EC	19	Not given	0.7899 ppm	In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; BIRDS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DDT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977

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Ethylene, 1,1-dichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)- (8 CI)
Benzene, 1-chloro-2-(2,2-dichloro-1-(4-chlorophenyl)ethenyl)- (9 CI)
3424-82-6
C14-H8-Cl4
MW 318.03

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
590 Uterus		GC GC-EC	7	Not given	2.9915 ppm	In extracted limits of uterine muscle. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DIT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977

Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(dichloroethenylidene)bis(4-chloro- (9 CI)
72-55-9
C14-H8-Cl4
MW 318.02, MP 88.6 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
591 Adipose	Inhalation	GC	a) 74 b) 70 c) 26 d) 35	a) Not given b) Not given c) Not given d) Not given	a) 7.4 ppm b) 7.4 ppm c) 9.3 ppm d) 5.9 ppm	a) Females, black b) Females, white c) Males, black d) Males, white Values from 64 controls ranged from 0.20-0.25 ppm. Samples from autopsies obtained during 1973-1974 at Medical College of Pennsylvania, Philadelphia and from patients undergoing abdominal surgery at Veterans Hospital, Durham, NC. Cigarette smoke ADIPOSE TISSUE; INSECTICIDES; TOBACCOS; SMOKING; AUTOPSIES; CHLORINATED HYDROCARBONS; PESTICIDES; DDT; DIELDRIN; PENNSYLVANIA; NORTH CAROLINA; RACIAL STUDIES	Domanski, J.J. Nelson, L.A. Guthrie, F.E. Domanski, B.E. Mark, E. Postlethwait, E.W. 1977
592 Adipose		CC GC-EC	10	0.32-1.68 ppm	0.76 ppm	Values based on ug/g extractable fat. Autopsy material from Oslo City Hospital. No special selection made with regard to age, sex or occupation. CHLORINATED HYDROCARBONS; LIVER; AUTOPSIES; NORWAY; CHLORINE ORGANIC COMPOUNDS; PESTICIDES; ADIPOSE TISSUE; DDE; POLYCHLORINATED BIPHENYLS; CHLOROBENZENES	Bjorseth, A. Lunde, G. Dybing, E. 1977

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Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(dichloromethenylidene)bis(4-chloro- (9 CI)
72-55-9
C14-H8-Cl4
MW 318.02, MF 88.4 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
593 Adipose		GC-EC	1	Not applicable	11,300 ppb	Professional pest control operator Bile, gallstone, and adipose fat obtained from a pest control worker who underwent cholecystectomy. Bile obtained from T-tube drainage of 5 hospitalized patients (who had not been associated with pesticide-using industries) following cholecystectomies. BILE; PESTICIDES; DIELDRIN; CHLORINATED HYDROCARBONS; LIVER; DDT; DDE; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE; OCCUPATIONAL HAZARDS; ARIZONA; BLOOD SERUM; ADIPOSE TISSUE	Paschal, E.H. Foan, C.C. Morgan, D.P. 1974
594 Adipose		GC-EC	170	0.740-33.20 ppm	5.26 ppm	Subcutaneous adipose tissue of the abdomen from 170 autopsy cases of sudden death collected at Medicolegal Center of Tehran. Ages from 4-91 years. PESTICIDES; ADIPOSE TISSUE; IRAN; CHLORINATED HYDROCARBONS; DIELDRIN; DDT; BIOACCUMULATION; METABOLITES; CHLORINE ORGANIC COMPOUNDS; AUTOPSIES; AGE; DDE; HEXACHLOROCYCLOHEXANE	Hasheny-Tonkabony, S.E. Soleimani-Amiri, M.J. 1978

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Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(dichloroethenylidene)bis(4-chloro- (9 CI)
72-55-9
C14-H8-Cl4
MW 318.02, MP 88.4 C

(CONTINUED)

TISSUE	EXPOSURE BODIE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
595 Adipose		CC GC-EC	a) 5 b) 9	a) 2.63-6.50 ppm b) 0.33-4.46 ppm	a) 4.3215 ppm b) 1.5291 ppm	a) Control-adjacent to breast tissue b) Adjacent to malignant breast tissue Values represent the concentrations in extracted lipids. Malignant tissue, adjacent to apparently normal glandular and adipose tissue of nine women with adenocarcinoma of the breast, obtained from the A.C. Camargo Hospital in Sao Paulo. Mammary gland and adjacent adipose tissue from 5 healthy women who died accidentally used for controls. BREAST; MAMMARY GLANDS; NEOPLASMS; ADIPOSE TISSUE; CARCINOMAS; PESTICIDES; LIPIDS; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; BIPHENYL COMPOUNDS; DIELDRIN; POLYCHLORINATED BIPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE; DDD; HEPTACHLOR EPOXIDE	Wassermann, M. Nogueira, D.P. Tomatis, L. Mirra, A.P. Shibata, H. Arie, G. Cucos, S. Wassermann, D. 1976
596 Adipose		CC GC	30	0.21-6.29 ppm	2.91 ppm	30 samples of adipose tisue obtained from 18 males and 12 females in Tokyo in 1974. Blood collected from 10 subjects in 1975. BLOOD; ADIPOSE TISSUE; PESTICIDES; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; JAPAN; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED TERPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE	Fukano, S. Doguchi, M. 1977

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Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(dichloroethenylidene)bis(4-chloro- (9 CI)
72-55-9
C14-H8-Cl4
MW 318.02, MP 88.4 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
597 Adipose		CC GC-EC	8	Not given	1.9205 ppm	In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent Cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DDT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977
598 Adipose		GC	a) 8 b) 8 c) 5	a) 763-1599 ng/g b) 675-2378 ng/g	a) 863 ng/g b) 1341 ng/g	a) Before intestinal bypass surgery b) After surgery 5 women and 3 men undergoing surgery for massive obesity. PESTICIDES; CHLORINATED HYDROCARBONS; INTESTINES; SURGERY; ADIPOSE TISSUE; BLOOD PLASMA; METABOLISM;	Backman, L. Kolmodin-Hedman, B. 1978
599 Amniotic fluid		CC GC-EC	4	Not given	26.7240 ppm	In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent Cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DDT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977

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Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(dichloroethenylidene)bis[4-chloro- (9 CI)
72-55-9
C14-H8-Cl4
MW 318.02, MP 88.6 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
600 Bile		GC-EC	a) 1 b) 5	a) Not applicable b) 0.5-5.6 ppb	a) 19 ppb b) 2.7 ppb	a) Professional pest control operator b) Control patients Bile, gallstone, and adipose fat obtained from a pest control worker who underwent cholecystectomy. Bile obtained from T-tube drainage of 5 hospitalized patients (who had not been associated with pesticide-using industries) following cholecystectomies. BILE; PESTICIDES; DIELDRIN; CHLORINATED HYDROCARBONS; LIVER; DDT; DDE; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE; OCCUPATIONAL HAZARDS; ARIZONA; BLOOD SERUM; ADIPOSE TISSUE	Paschal, E.H. Roan, C.C. Morgan, D.P. 1974
601 Blood		GC-EC	22	0.01-0.12 ug/ml	0.05 ug/ml	Subjects exposed to insecticides in different ways, e.g., mixing, spraying, supervision of aerial spraying, and insect counting in recently sprayed fields BLOOD; INSECTICIDES; CROP DUSTING; CHLORINE ORGANIC COMPOUNDS; OCCUPATIONAL HAZARDS; SUDAN; PESTICIDES; CHLORINATED HYDROCARBONS; DDE; DDT; DIELDRIN; DDD	El Zorgani, G.A. Musa, A. 1976

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Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(dichloroethenylidene)bis(4-chloro- (9 CI)
72-55-9
C14-H8-Cl4
mw 318.02, MP 88.4 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
602 Blood		CC GC-EC	a) 15 b) 9	a) 2-7 ppb b) 10-41 ppb	a) 3 ppb b) 21 ppb	a) Controls b) Patients Venous blood from 9 patients hospitalized with severe wasting disease (8 carcinomas). Control group of 15 healthy nonpatients. All from Missouri or surrounding states. PESTICIDES; BLOOD; DISEASES; CARCINOMAS; CHLORINE ORGANIC COMPOUNDS; BIPHENYL COMPOUNDS; CHLORINATED HYDROCARBONS; BIOACCUMULATION; POLYCHLORINATED BIPHENYLS; DDE	Hesselberg, R.J. Scherr, D.D. 1974
603 Blood		CC GC-EC	a) 24 b) 23	a) Not given b) Not given	a) 1.8740 ppm b) 1.8412 ppm	a) Maternal b) Fetal Twenty-four women and their offspring were studied during labor. Eight cases underwent Cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DET; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977

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Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(dichloroethenylidene)bis(4-chloro- (9 CI)
72-55-9
C14-H8-C14
MW 318.02, MF 88.4 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
604 Blood, plasma		GC GC-EC	a) 75 b) 39 c) 15 d) 216 e) 32	a) 10.0-57.1 ppb b) 6.9-57.1 ppb c) 5.5-59.4 ppb d) 2.0-84.6 ppb e) 2.2-52.5 ppb	a) 26.98 ppb b) 18.73 ppb c) 15.51 ppb d) 17.21 ppb e) 14.19 ppb	a) Self-defense army-male b) Self-defense army-female c) University hospital-male d) Farmer-female e) Pesticide worker-male Several groups of "normal" and "supposedly exposed" population selected. they include officers of Japanese self-defense army, staff members of University hospital, medical students, workers in a pesticide factory and farmers as well as 130 pairs of mother's blood plasma and umbilical cord. PESTICIDES; CHLORINE ORGANIC COMPOUNDS; OCCUPATIONAL HAZARDS; BLOOD PLASMA; PREGNANCY; UMBILICAL CORD; PLACENTA; POPULATION EXPOSURE; JAPAN	Yamaguchi, S. Kaku, S. Kuwahara, Y. Yamada, A. 1976
605 Blood, plasma		GC	a) 8 b) 8 c) 5	a) 2.0-9.5 ng/ml b) 3.0-13.5 ng/ml c) Not given	a) 5.1 ng/ml b) 8.2 ng/ml c) 19 ng/ml	a) Before intestinal bypass surgery b) After surgery c) Controls - 1977 5 women and 3 men undergoing surgery for massive obesity. PESTICIDES; CHLORINATED HYDROCARBONS; INTESTINES; SURGERY; ADIPOSE TISSUE; BLOOD PLASMA; METABOLISM	Backman, L. Kolmodin-Hedman, B. 1978

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Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(dichloroethenylidene)bis(4-chloro- (9 CI)
72-55-9
C14-H8-Cl4
MW 318.02, MP 88.4 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
606 Blood, serum		GC-EC	a) 516 b) 494 c) 884 d) 67 e) 960	a) Not given b) Not given c) Not given d) Not given e) 6.75-74.83 ppb f) 45.4-53.9 ppb	a) 23.74 ppb b) 17.40 ppb c) 20.25 ppb d) 26.93 ppb e) 20.56 ppb f) 50.15 ppb	a) Males b) Females c) No occupational exposure d) Possible occupational exposure e) Overall sample by county of residence f) 24 control sera Samples from 1,035 volunteers representing 38 counties participating in Adult Health Screening Program from August 1968 to April 1970. Occupations grouped in categories as related to pesticides, not related to pesticides, and unknown. Race was excluded as a variable. Agricultural application BLOOD SERUM; CHLORINATED HYDROCARBONS; PESTICIDES; RURAL AREAS; AGRICULTURE; DDE; DDT; DIELDRIN; MICHIGAN	Bloomer, A.W. Nash, S.I. Price, H.A. Welch, R.L. 1977
607 Blood, serum			3,568	Not given	25.4 ppb	Normal subjects Individuals attending the health appraisal center at the Pacific Health Research Institute in July 1969 to December 1970. CHLORINE ORGANIC COMPOUNDS; PESTICIDES; BLOOD SERUM; CHOLESTEROLS; HAWAII; BIOACCUMULATION	Rashad, M.N. Mi, M.P. Klemmer, H.W. Rudy, A.M. Reichert, E.L. 1976

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Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(dichloroethenylidene)bis[4-chloro- (9 CI)
72-55-9
C14-H8-Cl4
MW 318.02, MF 88.4 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
608 Blood, serum		GC-EC	1	Not applicable	60 ppb	Professional pest control operator Value for serum. Bile, gallstone, and adipose fat obtained from a pest control worker who underwent cholecystectomy. Bile obtained from T-tube drainage of 5 hospitalized patients (who had not been associated with pesticide-using industries) following cholecystectomies. BILE; PESTICIDES; DIELDRIN; CHLORINATED HYDROCARBONS; LIVER; DDT; DDE; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE; OCCUPATIONAL HAZARDS; ARIZONA; BLOOD SERUM; ADIPOSE TISSUE	Paschal, E.H. Roan, C.C. Morgan, D.P. 1974
609 Blood, serum		CC GC-EC	a) 524 b) 55 c) 56	a) Not given b) Not given c) Not given	a) 12.9 ppb b) 29.4 ppb c) 11.4 ppb	a) Michigan farmers b) Michigan Chemical Co. employees c) Wisconsin farmers (controls) 524 farm family members and 55 Michigan Chemical Corporation employees OCCUPATIONAL HAZARDS; FARMS; PESTICIDES; DDE; BLOOD SERUM; BROMINE ORGANIC COMPOUNDS; BIPHENYL COMPOUNDS; CHLORINE ORGANIC COMPOUNDS; INDUSTRIAL PLANTS; POLYBROMINATED BIPHENYLS; RURAL AREAS	Wolff, M.S. Aubrey, B. Camper, P. Haynes, M. 1978

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Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(dichloroethenylidene)bis[4-chloro- (9 CI)
72-55-9
C14-H8-Cl4
MW 318.02, MF 88.4 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
610 Blood, serum			a) 8 b) 3	a) 21-90 ppb b) 15-27 ppb	a) 60.9 ppb b) 20 ppb	a) Persons spraying pesticides b) Controls Samples from exposed farmers and nonoccupationally exposed controls in Michigan. PESTICIDES; OCCUPATIONAL HAZARDS; BLOOD SERUM; SKIN; AGRICULTURE; MICHIGAN; BIOACCUMULATION; DDT; DDE; DIELDRIN	Kazen, C. Blosser, A. Welch, P. Gudbier, A. Price, H. 1974
611 Blood, serum	Ingestion		a) 195 b) 112	a) 5.1-31.3 ppb b) 4.0-27.0 ppb Range of means	a) Not given b) Not given	a) 39 family units on quarantined farms b) 23 family units on nonquarantined farms Method of analysis not given. Samples from 62 families on dairy farms or consumers of food from these farms in Michigan. DDE; BIPHENYL COMPOUNDS; BROMINATED HYDROCARBONS; POPULATION EXPOSURE; FOOD CONTAMINATION; MICHIGAN; PESTICIDES; POLYBROMINATED BIPHENYLS	Wolff, M.S. Haynes, D. Anderson, H.A. Selikoff, I.J. 1978
612 Blood, serum		GC	38	0.005-0.022 ppm	0.011 ppm	Eskimo children More data available 19 males, 19 females, aged 6-17 yr, from Hooper Bay, Alaska DDT; PESTICIDES; BLOOD SERUM; ALASKA; POPULATION EXPOSURE; DDE	Serat, W.F. Lee, W.F. Van Loon, A.J. Meagle, D.C. Ferguson, J. Burks, J.W. Bender, T.R. 1977

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Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(dichloroethenylidene)bis(4-chloro- (9 CI)
72-55-9
C14-H8-Cl4
MW 318.02, MF 88.4 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
613 Blood, whole		CC GC-EC	27	3.2-19.6 ppb	11.2 ppb	Samples from 19 male and 8 female volunteers, 21 to 57 yr, Tokyo, Japan. BLOOD; JAPAN; PESTICIDES	Doguchi, M. Fukano, S. 1975
614 Endometrium		CC GC-EC	14	a) Not detectable-8.09 ppm b) Not detectable-0.0139 ppm	a) 2.91 ppm b) 0.0077 ppm	a) lipid extractable material b) Whole tissue Samples from residents of Hawaii collected from 1964-1973 PESTICIDES; HAWAII; FETUS; FETAL MEMBRANES; MILK; UTERUS; BLOOD SERUM; DDT; DDE; DIELDRIN	Klemmer, H.W. Budy, A.M. Takahashi, W. Haley, T.J. 1977
615 Fetal		CC GC-EC	15	a) Not detectable-6.96 ppm b) Not detectable-0.0200 ppm	a) 1.70 ppm b) 0.0042 ppm	a) lipid extractable material b) Whole tissue Fetal tissue includes fetus, cord, amnion, chorion, and chorionic villi 3 months or less in development. Samples from residents of Hawaii collected from 1964-1973 PESTICIDES; HAWAII; FETUS; FETAL MEMBRANES; MILK; UTERUS; BLOOD SERUM; DDT; DDE; DIELDRIN	Klemmer, H.W. Budy, A.M. Takahashi, W. Haley, T.J. 1977

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Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(dichloroethenylidene)bis(4-chloro- (9 CI)
72-55-9
C14-H8-Cl4
MW 318.02, MP 88.6 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
616 Gall stone		GC-EC	1	Not applicable	92 ppb	Professional pest control operator Bile, gallstone, and adipose fat obtained from a pest control worker who underwent cholecystectomy. Bile obtained from T-tube drainage of 5 hospitalized patients (who had not been associated with pesticide-using industries) following cholecystectomies. BILE; PESTICIDES; DIELDRIN; CHLORINATED HYDROCARBONS; LIVER; DDT; DDE; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE; OCCUPATIONAL HAZARDS; ARIZONA; BLOOD SERUM; ADIPOSE TISSUE	Paschal, E.H. Boan, C.C. Morgan, D.P. 1974
617 Gall stone		GC-EC	1	Not applicable	35 ppb	Professional pest control operator Bile, gallstone, and adipose fat obtained from a pest control worker who underwent cholecystectomy. Bile obtained from T-tube drainage of 5 hospitalized patients (who had not been associated with pesticide-using industries) following cholecystectomies. BILE; PESTICIDES; DIELDRIN; CHLORINATED HYDROCARBONS; LIVER; DDT; DDE; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE; OCCUPATIONAL HAZARDS; ARIZONA; BLOOD SERUM; ADIPOSE TISSUE	Paschal, E.H. Boan, C.C. Morgan, D.P. 1974

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Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (9 CI)
Benzene, 1,1'-(dichloroethenylidene)bis[4-chloro- (9 CI)
72-55-9
C14-H8-Cl4
MW 318.02, MF 88.4 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
618 Liver		CC GC-EC	10	0.35-1.21 ppm	0.80 ppm	Values based on ug/g extractable fat. Autopsy material from Oslo City Hospital. No special selection made with regard to age, sex or occupation. CHLORINATED HYDROCARBONS; LIVER; AUTOPSIES; NORWAY; CHLORINE ORGANIC COMPOUNDS; PESTICIDES; DDE; POLYCHLORINATED BIPHENYLS; CHLOROBENZENES	Bjorseth, A. Lunde, G. Dybing, E. 1977
619 Mammary gland		CC GC-EC	a) 5 b) 9 c) 9	a) 4.81-8.75 ppm b) 0.44-6.61 ppm c) 0.22-5.35 ppm	a) 6.6697 ppm b) 2.7149 ppm c) 2.0276 ppm	a) Control b) Malignant c) Breast tissue adjacent to malignancy Values represent the concentrations in extracted lipids. Malignant tissue, adjacent to apparently normal glandular and adipose tissue of nine women with adenocarcinoma of the breast, obtained from the A.C. Camargo Hospital in Sao Paulo. Mammary gland and adjacent adipose tissue from 5 healthy women who died accidentally used for controls. BREAST; MAMMARY GLANDS; NEOPLASMS; ADIPOSE TISSUE; CARCINOMAS; PESTICIDES; LIPIDS; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; BIPHENYL COMPOUNDS; DIELDRIN; POLYCHLORINATED BIPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Wassermann, M. Nogueira, D.P. Tomatis, L. Mirra, A.P. Shibata, H. Arie, G. Cucos, S. Wassermann, D. 1976

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Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(dichloroethenylidene)bis[4-chloro- (9 CI)
72-55-9
C14-H8-Cl4
MW 318.02, MP 88.4 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
620 Milk		CC GC/MS	a) 6 b) 9	a) 0.017-0.068 ppm b) 0.009-0.080 ppm	a) 0.035 ppm b) 0.019 ppm	a) New Brunswick women b) Nova Scotia women Six lactating mothers from New Brunswick and 9 from Nova Scotia. MILK; BREAST; CANADA; PESTICIDES; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; LACTATION; POLYCHLORINATED BIPHENYLS; DDT; DDE	Musial, C.J. Hutzinger, O. Zitko, V. Crocker, J. 1974
621 Milk		CC GC-EC	6	a) 0.09-10.85 ppm b) 0.01-0.48 ppm	a) 1.88 ppm b) 0.10 ppm	a) Values are for milk fat b) Values are for whole milk Samples from residents of Hawaii collected from 1964-1973 PESTICIDES; HAWAII; FETUS; FETAL MEMBRANES; MILK; UTERUS; BLOOD SERUM; DDT; DDE; DIELDRIN	Klemmer, H.W. Rudy, A.M. Takahashi, W. Haley, T.J. 1977
622 Milk		TLC GC	a) 14 b) 59 c) 15 d) 97	a) 80-93 ug/kg b) 78-88 ug/kg c) 32-76 ug/kg d) 27-84 ug/kg	a) 65 ug/kg b) 59 ug/kg c) 52 ug/kg d) 43 ug/kg	a) Apr-July 1967 b) Nov 1971-Dec 1972 c) June-Nov 1974 d) Mar 1976-Mar 1977 Each case represents a pooled sample from 10-20 mothers. Samples from women in Stockholm, Sweden PESTICIDES; SWEDEN; MILK; BIPHENYL COMPOUNDS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES; POLYCHLORINATED BIPHENYLS; DIELDRIN; DDT; DDE; HEXACHLOROCYCLOHEXANE	Westoo, G. Noren, K. 1978

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Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(dichloroethenylidene)bis(4-chloro- (9 CI)
72-55-9
C14-H8-Cl4
MW 318.02, MP 88.6 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
623 Milk		GC	2	a) 29-32 ppb b) 46-52 ppb	a) Not given b) Not given	a) Sample 1 b) Sample 2 Repeated determinations PESTICIDES; CHLOROBENZENES; DDE; MILK	Brevik, E.M. 1978
624 Milk		GC	2	1.44-3.49 ug	2.96 ug	Amounts varied for different feedings. Values are daily total. Samples from donors at various times of breast feeding and at different times of the day. MILK; PESTICIDES; PESTICIDE RESIDUES; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; HEXACHLOROBENZENE; DDT; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE; OXYCHLORDANE; NONACHLOR; DDE; DIELDRIN	Mes, J. Davies, D.J. 1978
625 Milk		GC-EC	a) 5 b) 5	a) Not given b) Not given	a) 761 gamma/day b) 735 gamma/day	a) Breast-feeding mothers with one child b) Breast-feeding mothers with twins. Data for 1974 Two groups of breast-feeding mothers, one group feeding one infant and the other group feeding twins. PESTICIDES; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BREAST; INFANTS; FOODS	Adamovic, V.M. Sokic, B. Smiljanski, M-J 1978

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Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(dichloromethenylidene)bis(4-chloro- (9 CI)
72-55-9
C14-H8-Cl4
MW 318.02, MP 88.4 C

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TISSUE	EXPOSURE DOSE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
626 Milk, whole		GC-EC	57	0.04-1.72 ppm	0.227 ppm	Samples from 17 Negroes and 40 Caucasians in hospitals in Arkansas and Mississippi. Agricultural application on rice fields PESTICIDES; PESTICIDE RESIDUES; MILK; BIOACCUMULATION; POPULATION EXPOSURE; MAMMARY GLANDS; LACTATION; PLACENTA; ARKANSAS; MISSISSIPPI	Strassman, S.C. Kutz, F.W. 1977
627 Milk, whole		TLC GC/MS GC-EC	57	0.04-1.72 ppm	0.22 ppm	100% positive samples. Samples from lactating women in selected areas of Arkansas and Mississippi. PESTICIDES; ADIPOSE TISSUE; MILK; DRINK; BIOACCUMULATION; BIPHENYL COMPOUNDS; CHLORINATED HYDROCARBONS; ARKANSAS; MISSISSIPPI	Kutz, F.W. Strassman, S.C. Yobs, A.R. 1977
628 Milk, whole		GC-EC	a) 34 b) 38 c) 39 d) 54	a) 0.025-0.516 ppm b) 0.006-0.169 ppm c) 0.019-0.699 ppm d) 0.007-0.282 ppm	a) 0.178 ppm b) 0.035 ppm c) 0.220 ppm d) 0.095 ppm	a) Mothers from Aveiro, Portalegre, and Setubal, Portugal b) Mothers from Vimes and Braganca, Portugal c) Mothers from Evora and Lisbon, Portugal d) Mothers from Faro, Guarda, Porto, Viana do Castelo, and Vila Real, Portugal Samples taken in 1972. PESTICIDES; DDT; DDE; DIELDRIN; MILK; PORTUGAL	Graca, I. Fernandes, A.F.S.S. Nograo, H.C. 1974

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Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI)
Benzene, 1,1'-(dichloroethenylidene)bis(4-chloro- (9 CI)
72-55-9
C14-H8-Cl4
MW 318.02, MP 88.4 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
629 Placenta		CC GC-EC	19	Not given	3.9530 ppm	In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent Cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DIT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977
630 Uterus		CC GC-EC	7	Not given	5.6009 ppm	In extracted lipids of uterine muscle. Twenty-four women and their offspring were studied during labor. Eight cases underwent Cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DIT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977

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9007-73-2
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
631 Blood, serum		RIA	a) 14 b) 17 c) 9 d) 7 e) 5 f) >6	a) Not given b) Not given c) 2-78 ng/ml d) 8-105 ng/ml e) 124-783 ng/ml f) 208-795 ng/ml	a) 204 ng/ml b) 209 ng/ml c) 32 ng/ml d) 61 ng/ml e) 322 ng/ml f) 522 ng/ml	a) Dialysis patients b) Nondialysis patients c) Patients with no bone marrow iron stores (BMIS) d) Patients with decreased BMIS e) Patients with adequate BMIS f) Patients with increased BMIS 17 patients without renal failure, and 14 anemic dialysis patients. Average age of dialysis patients is 48.5 yr and duration of dialysis is 37 mo. Average age of nondialysis patients is 52.6 yr. BLOOD SERUM; BONE MARROW; IRON; HEMOGLOBINS	Mirahmadi, K.S. Paul, W.L. Winer, R.L. Dabir-Vaziri, N. Eyer, P. Gorman, J.T. Rosen, S.M. 1977
632 Bone marrow		RIA	a) 14 b) 17 c) 9 d) 7 e) 5 f) >6	a) Not given b) Not given c) 0.2-5.3 ug/ml d) 0.9-6.8 ug/ml e) 3.1-79.0 ug/ml f) 5.0-223.0 ug/ml	a) 12.5 ug/ml b) 33.4 ug/ml c) 2.3 ug/ml d) 3.4 ug/ml e) 39.3 ug/ml f) 61.0 ug/ml	a) Dialysis patients b) Nondialysis patients c) Patients with no bone marrow iron stores (BMIS) d) Patients with decreased BMIS e) Patients with adequate BMIS f) Patients with increased BMIS 17 patients without renal failure, and 14 anemic dialysis patients. Average age of dialysis patients is 48.5 yr and duration of dialysis is 37 mo. Average age of nondialysis patients is 52.6 yr. BLOOD SERUM; BONE MARROW; IRON; HEMOGLOBINS	Mirahmadi, K.S. Paul, W.L. Winer, R.L. Dabir-Vaziri, N. Eyer, P. Gorman, J.T. Rosen, S.M. 1977

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
633 Blood, plasma		Electroche=	57 Controls 100	a) Not given b) Not given	a) 0.70 umol/l b) 0.58 umol/l	a) Pregnant toxemic patients b) Pregnant healthy patients F decreases when fetal hard tissues begin to mineralize. In lactation, F approaches normal. Women from the Maternity Hospital in Turku City PREGNANCY; LACTATION; BLOOD PLASMA; FLUORINE COMPOUNDS	Hanhigarvi, H. Kanto, J. Ruponen, S. 1974
634 Blood, plasma		ISE	41	0.019-0.112 ppm	0.047 ppm	Positive linear correlation of 0.53 between plasma level and age. 41 inpatients at the University Hospital, Iowa City, 36 of whom had resided in fluoridated communities, ages 17-82 years (mean of 52 years). 20 autopsied cases, 19 of whom had been residing in fluoridated communities, ages 21-77 years (mean of 50 years). BLOOD PLASMA; FLUORINE; BONES; AUTOPSIES; AGE; IOWA	Parkins, F.M. Tinanoff, N. Moutinho, M. Anstey, M.B. Waziri, M.H. 1976
635 Blood, serum		Morin-thorium	16	a) Not given b) Not given	a) 0.88 uM b) 0.68 uM	a) Maternal b) Cord Maternal and cord blood pairs collected from 16 deliveries PLACENTA; FLUORINE COMPOUNDS; BLOOD SERUM; UMBILICAL CORD; URINE; HALOGENS	Shen, Y.-W. Taves, D.R. 1974

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
636 Bone		ISE	20	1295-5745 ppm wet wt	2824 ppm wet wt	Iliac crests. Positive linear correlation of 0.67 between concentration and age. 41 inpatients at the University Hospital, Iowa City, 36 of whom had resided in fluoridated communities, ages 17-82 years (mean of 52 years). 20 autopsied cases, 19 of whom had been residing in fluoridated communities, ages 21-77 years (mean of 50 years). BLOOD PLASMA: FLUORINE: BONES: AUTOPSIES: AGE: IOWA	Parkins, F.M. Tinanoff, N. Moutinho, M. Anstey, M.B. Waziri, M.H. 1976
637 Placenta		Morin-thorium ISE	16	a) 6.6-103.6 uM b) 12.0-142.5 uM c) 1.9-8.1 uM d) 1.5-7.5 uM	a) 46.40 uM b) 50.56 uM c) 4.42 uM d) 4.45 uM	a) Acid-labile fluoride (electrode method) b) Acid-labile fluoride (Morin-thorium reagent) c) Organic fluoride (electrode method) d) Organic fluoride (Morin-thorium reagent) Maternal and cord blood pairs collected from 16 deliveries PLACENTA: FLUORINE COMPOUNDS: BLOOD SERUM: UMBILICAL CORD: URINE: HALOGENS	Shen, Y.-W. Taves, D.R. 1974

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
638 Teeth		ISE		a) Not given b) Not given	a) 0.253% dry wt b) 0.342% dry wt	a) Normal b) Periodontal Disease Values are for cementum. Diseased cementum had significantly higher F, lower citrate, and slightly higher carbonate than normal. Teeth from residents of areas with low, optimum, and high levels of natural fluoride. Age groups included < 20 yr, 20-40 yr, and > 40 yr. Teeth extracted because of caries were included in the "normal" group. TEETH; FLUORIDE; ORAL DISEASES; AGE; MINERALS	Stepnick, R.J. Nakata, T.M. Zipkin, I. 1975
639 Urine		Morin-thorium	16	Not given	54 uM	Maternal Maternal and cord blood pairs collected from 16 deliveries PLACENTA; FLUORINE COMPOUNDS; BLOOD SERUM; UMBILICAL CORD; URINE; HALOGENS	Shen, Y.-W. Taves, D.R. 1974

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
640 Urine		GC	a) 10 b) 47 c) 12 d) 59	a) Not given b) Not given c) Not given d) Not given	a) 0.71 mg/l b) 0.27 mg/l c) 0.65 mg/l d) 0.30 mg/l	a) With fluoride tablets, living < 8 km from source b) Without fluoride tablets, living < 8 km from source c) With fluoride tablets, living 15 km from source d) Without fluoride tablets, living 15 km from source Boys, 9-11 yr, in 2 villages close to an aluminum refinery and in 2 villages at a 15 km distance from fluoride emissions. Dietary consumption of vegetables grown in gardens near refinery. INDUSTRIAL POLLUTION; URINE; CHILDREN; NETHERLANDS; ALUMINUM; FLUORIDE	Biersteker, K. Zielhuis, R.L. Backer Dirks, O. van Leeuwen, P. van Baay, A. 1977

Fluorine
7782-41-4
F2
AtW 18.9984, MP -219.61 C, BP -188.13 C, VP 100 mm Hg at -203 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
681 Teeth		ISE	a) 35 b) 35 c) 52 d) 52	a) Not given b) Not given c) Not given d) Not given	a) 832.1 ppm b) 309.6 ppm c) 540.4 ppm d) 197.4 ppm	a) Surface enamel, Montana residents b) Inner enamel, Montana residents c) Surface enamel, California and Oregon residents d) Inner enamel, California and Oregon residents Other data available. Samples from 12-14 yr old children who were life-long residents of their respective towns in Oregon, Montana, and California. STRONTIUM; METALS; FLUORINE; TEETH; DENTAL CARIES; MINERALS; SELENIUM; CALIFORNIA; MONTANA; OREGON; CHILDREN	Little, M.F. Barrett, K. 1976
682 Urine		ISE	3 samples, each duplicated	0.39-0.43 mg/l	0.41 mg/l	Reference sample - "normal" freeze-dried URINE; TRACE ELEMENTS; METALS; SELENIUM; COPPER; ARSENIC; NICKEL; CHROMIUM; COMPARATIVE EVALUATIONS	Gills, T.E. McClendon, L.T. Maienthal, E.J. Becker, D.A. Durst, R.A. LaFleur, P.D. 1974

Gentamicin
1403-6a-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
641 Blood, serum	Injection	Microbiological	a) 26 b) 21 c) 17 d) 17	a) 0-3.6 ug/ml b) 0-2.8 ug/ml c) 0.8-6.8 ug/ml d) 0.3-2.5 ug/ml	a) 2.0 ug/ml b) 0.75 ug/ml c) 3.1 ug/ml d) 1.2 ug/ml	a) 1 hr, dose 180 mg gentamicin sulfate/sq m/day (avg. 80 mg/6 hr), 12 g ticarcillin disodium/sq m/day (avg., 5 g/6 hr) b) 5 hr, dose same as (a) c) 1 hr, dose 180 mg gentamicin sulfate/sq m/day (avg., 80 mg/6 hr), 7 g cephalothin sodium/sq m/day (avg. 3 g/6 hr) d) 5 hr, dose same as (c) Febrile patients with granulocytopenia and cancer. DRUGS; ANTIBIOTICS; BLOOD SERUM; MARYLAND; CASE HISTORIES; DRUG THERAPY	Murillo, J. Standiford, H.C. Schimpff, S.C. Yates, B.A. 1979

Germanium
7440-56-4
Ge
AtW 72.59, MP 937.2 C, BP 2700 C, VP 10 mm Hg at 2080 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
606 Lung		NS	100	0.08-4.2 ug/g dry wt	0.49 ug/g dry wt	Means are geometric. Samples from deceased Cincinnati, OH residents, age range 23-96 years with a median of 66 years, evenly divided between men and women, blacks and whites. Occupations included foundry workers, machinists, farmers, domestics, homemakers, clerical workers. Deaths were from normal causes. METALS; TRACE ELEMENTS; ALUMINUM; CADMIUM; CHROMIUM; COBALT; COPPER; GERMANIUM; IODINE; LEAD; MAGNESIUM; MANGANESE; MOLYBDENUM; SELENIUM; TITANIUM; VANADIUM; ZINC; AUTOPSIES; LUNGS; LYMPH NODES; URBAN AREAS; OHIO	Sweet, D.V. Crouse, W.E. Crable, J.V. 1978
645 Lymph node		NS	100	0.08-12 ug/g dry wt	1.98 ug/g dry wt	Means are geometric. Samples from deceased Cincinnati, OH residents, age range 23-96 years with a median of 66 years, evenly divided between men and women, blacks and whites. Occupations included foundry workers, machinists, farmers, domestics, homemakers, clerical workers. Deaths were from normal causes. METALS; TRACE ELEMENTS; ALUMINUM; CADMIUM; CHROMIUM; COBALT; COPPER; GERMANIUM; IODINE; LEAD; MAGNESIUM; MANGANESE; MOLYBDENUM; SELENIUM; TITANIUM; VANADIUM; ZINC; AUTOPSIES; LUNGS; LYMPH NODES; URBAN AREAS; OHIO	Sweet, D.V. Crouse, W.E. Crable, J.V. 1978

Glutamic acid, N-(p-(((2,4-diamino-6-pteridinyl)methyl)methylamino)benzoyl)-, L-(+)- (8 CI)
L-Glutamic acid, N-[4-[((2,4-diamino-6-pteridinyl)methyl)methylamino)benzoyl]- (9 CI)
59-05-2
C20-H22-N8-O5
MW 454.46, MP 195 C (decomp)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
646 Blood, serum	Injection	Radiometry	a) 2 b) 8 c) 5 d) 3 e) 4 f) 7 g) 7 h) 10 i) 7 j) 5	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given	a) 3 x 10(E-6) moles/l b) 1 x 10(E-5) moles/l c) 7.5 x 10(E-6) moles/l d) 8 x 10(E-6) moles/l e) 2.5 x 10(E-5) moles/l f) 3 x 10(E-5) moles/l g) 2 x 10(E-5) moles/l h) 4 x 10(E-5) moles/l i) 9 x 10(E-5) moles/l j) 5 x 10(E-4) moles/l	a) 0.14 g/m2 b) 0.28 g/m2 c) 0.56 g/m2 d) 0.84 g/m2 e) 1.125 g/m2 f) 1.69 g/m2 g) 2.53 g/m2 h) 3.78 g/m2 i) 5.70 g/m2 j) 8.54 g/m2 Average levels (approximate values) during continuous 24-hr infusion of these doses. Cancer patients. Most common toxicity was mucositis. Myelosuppression, leukopenia, and thrombocytopenia also observed in some. Anorexia, nausea and vomiting in half the patients at the two highest dose levels. Renal toxicity in two cases. DRUGS: BLOOD SERUM	Howell, S.B. Pfeninger, W.D. Frishan, A. Frei, E. 1978
647 Blood, serum	Injection	RIA	a) 4 b) 4 c) 4	a) Not given b) Not given c) Not given	a) 4.45 umol/l b) 1.5 umol/l c) 0.2 umol/l	a) Constant infusion of MTX, steady-state level b) 24 hrs after intravenous bolus injections of MTX and probenecid, value estimated from graph c) 24 hrs after intravenous bolus injection of MTX (no probenecid), value estimated from graph 12 patients with inoperable tumors DRUGS; NEOPLASMS; DISEASES; BLOOD SERUM	Aherne, G.W. Diall, T. Marks, V. Mould, G. White, W.F. 1978

Glutarimide, 2-ethyl-2-phenyl- (8 CI)
2,6-Piperidinedione, 3-ethyl-3-phenyl- (9 CI)
77-21-4
C13-H15-N-O2

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
648 Blood		GC	1	Not applicable	2.1 mg/l	2 other drugs also present. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, H. Holder, A.T. Powell, R. 1979
649 Urine		GC	1	Not applicable	37.0 mg/l	2 other drugs also present. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, H. Holder, A.T. Powell, R. 1979

Glyoxylic acid, phenyl- (8 CI)
Benzeneacetic acid, alpha-oxo- (9 CI)
611-73-4
C8-H6-03

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
650 Urine	Inhalation	GC	a) 11 b) 6 c) 3 d) 6	a) Not given b) Not given c) Not given d) Not given	a) 26 ug/g creatinine b) 51 ug/g creatinine c) 13 ug/g creatinine d) 20 ug/g creatinine	a) Styrene polymerization worker b) Styrene purification worker c) Laborer d) Styrene manufacture worker Workers in styrene polymerization plant in the United States. Industrial contamination INDUSTRIAL POLLUTION; STYRENES; METABOLITES; BLOOD	Wolff, M.S. Lorimer, W.V. Lilis, R. Selikoff, I.J. 1978

Gold
7440-57-5
Au
Atw 196.9665, MP 1064.76 C, BP 2709 C, VP 1 mm Hg at 1869 C, 10 mm Hg at 2160 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
659 Skin		NA	a) 5 b) 5 c) 10 (Samples)	a) 0.0008-0.006 ug/g dry wt b) 0.001-0.008 ug/g dry wt c) 0.0001-0.006 ug/g dry wt	a) 0.0029 ug/g dry wt b) 0.0026 ug/g dry wt c) 0.0016 ug/g dry wt	a) Normal b) Psoriatic uninvolved c) Psoriatic involved Specimens from trunk region of 14 males in Sweden. 9 were suffering from psoriasis (ages 0-59 yr, mean 46), and 5 had no evidence of skin disorder (ages 19-57 yr, mean 33) BROMINE; CADMIUM; CHROMIUM; MOLYBDENUM; RUBIDIUM; SELENIUM; ARSENIC; GOLD; CESIUM; MERCURY; LANTHANUM; ANTIMONY; SCANDIUM; SAMARIUM; TUNGSTEN; EPIDERMIS; SKIN DISEASES; METALS; TRACE ELEMENTS	Holin, L. Wester, P.O. 1974

Guanidine, N-cyano-N'-methyl-N''-(2-(((5-methyl-1H-imidazol-4-yl)methyl)thio)ethyl)-
51481-61-9
C10-H16-N6-S

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
652 Blood, serum			9	a) 0.72-1.78 ug/ml b) 0.56-1.71 ug/ml c) 0.46-1.25 ug/ml	a) 1.13 ug/ml b) 1.06 ug/ml c) 0.86 ug/ml	a) During first 2 hr, cimetidine administered alone b) During 3-5 hr, cimetidine administered alone c) During 3-5 hr, cimetidine + antacid administered 9 patients with chronic active peptic-ulcer disease. DRUGS; BLOOD SERUM; GASTROINTESTINAL SYSTEM; DRUG THERAPY	Bodemar, G. Norlander, B. Walan, A. 1979
653 Blood, serum	Injection		a) 6 b) 1 c) 27 d) 35	a) Not given b) Not applicable c) Not given d) 0.12-8 ug/ml	a) > 1.25 ug/ml b) 5.8 ug/ml c) < 1.25 ug/ml d) Not given	a) Patients with mental status deterioration b) Patient with renal and liver failure c) Patients with no mental status change d) All patients (values estimated from figure) Values are at trough times (5 min before the next dose). 36 patients, 72% with gastrointestinal bleeding. Mental confusion associated with renal and hepatic dysfunction. DRUGS; BLOOD SERUM; GASTROINTESTINAL SYSTEM; DRUG THERAPY; NEUROLOGIC MANIFESTATIONS; SPINAL FLUID	Schentag, J.J. Calleri, G. Rome, J.Q. Cerra, F.B. DeGlopper, E. Bernhard, H. 1979

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Guanidine, N-cyano-N'-methyl-N''-[2-[[(5-methyl-1H-imidazol-4-yl)methyl]thio]ethyl]-
51481-61-9
C10-H16-N6-S

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
654 Cerebrosp inal fluid			a) 3 b) 3 c) 2	a) Not applicable b) 0.17-0.3 ug/ml c) 1.0-1.5 ug/ml	a) 1.4 ug/ml b) not given c) not given	a) Patient with renal and liver failure b) Patients without mental changes (estimated from figure) c) Patients with mental status deterioration (estimated from figure) 73 yr old woman with renal and liver failure. 3 patients without mental changes and 2 with mental deterioration. Mental confusion associated with renal and hepatic dysfunction. DRUGS; BLOOD SERUM; GASTROINTESTINAL SYSTEM; DRUG THERAPY; NEUROLOGIC MANIFESTATIONS; SPINAL FLUID	Schentag, J.J. Calleri, G. Rose, J.Q. Cerra, F.B. DeGlopper, E. Bernhard, H. 1979

Hydantoin, 1-[[5-nitrofurfurylidene)amino]- (8 CI)
2,4-Imidazolidinedione, 1-[[5-nitro-2-furanyl)methylene)amino]- (9 CI)
67-20-9
CH-86-NH-05

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
655 Blood, plasma	Ingestion	GC	6	Not given	Maximum concentration: 2.33 ug/ml	100 mg administered orally. Healthy volunteers, employees of the Department of Clinical Pharmacy 45 min DRUGS; URINE; BLOOD PLASMA; CHEMOTHERAPY	Vree, T.B. Hekster, Y.A. Baars, A.M. Damsma, J.E. van der Kleijn, E. Bron, J. 1979
656 Urine	Ingestion	AAS	5	28.30-47-48 mg	Not given	Values are mean cumulative amounts excreted 6 different formulations of tablets were tested, including chewable tablet, swallow tablet, hard gelatin capsule. Other data available. Healthy male volunteers, aged 20 to 40 yr. DRUGS; URINE	Mends, R.W. Masih, S.Z. Kanumauri, R.R. 1978
657 Urine	Ingestion	GC	6	Not given	Maximum excretion rate: 466 ug/min	100 mg administered orally. 70.4% excreted unchanged Healthy volunteers, employees of the Department of Clinical Pharmacy DRUGS; URINE; BLOOD PLASMA; CHEMOTHERAPY	Vree, T.B. Hekster, Y.A. Baars, A.M. Damsma, J.E. van der Kleijn, E. Bron, J. 1979

Hydantoin, 5,5-diphenyl- (8 CI)
2,4-Imidazolidinedione, 5,5-diphenyl- (9 CI)
57-41-0
C15-H12-N2-O2
MW 252.26, MP 295-298 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
658 Bile		Colorimetry	1	Not applicable	2.0 mg/l	2 other drugs also present. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, N. Holder, A.T. Powell, H. 1979
659 Blood		RIA	1	a) Not given b) Not given c) Not given d) Not given	a) 5.5 ug/ml b) 12.5 ug/ml c) 8.1 ug/ml d) 0.1 ug/ml	a) Whole blood b) Blood serum c) Aged bloodstain d) Washed red blood cells Dose rate not given. Samples from individual taking Dilantin. DRUGS; ANTICONVULSANTS; DIPHENYLHYDANTOINS; BLOOD; SPERM; SALIVA; MEASUREMENT METHODS	Shaler, R.C. Smith, F.P. Mortimer, C.E. 1978
660 Blood		Colorimetry	1	a) Not applicable b) Not applicable	a) 2.0 mg/l b) 4.0 mg/l	a) Peripheral blood b) Liver blood 2 other drugs also present. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, N. Holder, A.T. Powell, H. 1979

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Hydantoin, 5,5-diphenyl- (8 CI)
2,4-Imidazolidinedione, 5,5-diphenyl- (9 CI)
57-41-0
C15-H12-N2-02
MW 252.26, MP 295-298 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
661 Blood, serum	Ingestion	GC	a) 26 b) 3 c) 2 d) 3 e) 2	a) 0-22 ug/ml b) 0-18 ug/ml c) Not applicable d) 2-7 ug/ml e) 6-9 ug/ml	a) 3.2 ug/ml b) 6.9 ug/ml c) 11 ug/ml d) 4.6 ug/ml e) 7.5 ug/ml	a) Adult epileptics receiving 5 mg phenytoin per kg body weight (tablets). 43 assays b) Children receiving phenytoin (suspension). 11 assays c) Symptomless subjects, receiving 300 mg phenytoin daily as tablets for 8 days, then as suspension for 4 days d) Symptomless subjects, receiving 300 mg phenytoin daily as capsules for 8 days, then as tablets for 4 days e) Symptomless subjects, receiving 300 mg phenytoin daily as suspensions for 8 days, then capsules for 4 days 9 males on the laboratory staff, epileptic patients BLOOD SERUM; DIPHENYLHYDANTOINS; ANTICONVULSANTS; DRUGS; CENTRAL NERVOUS SYSTEM DISEASES	Miles, M.E. Attwood, E.C. Seddon, R.M. 1976
662 Blood, serum			1	a) Not applicable b) Not applicable	a) 12 umol/l b) 160 umol/l	a) Patient receiving 300 mg phenytoin daily b) Patient receiving 600 mg phenytoin daily Pharmacokinetic data available. Samples from 39 yr old man who had suffered an intracerebral hemorrhage Paresthesia, leg jerks, interse diplopia, gross ataxia, coarse nystagmus on lateral gaze, slurring dysarthia DIPHENYLHYDANTOINS; ANTICONVULSANTS; DRUGS; BLOOD SERUM; CASE HISTORIES	Richens, A. Dunlop, A. Ahmad, S. Laidlaw, J. 1976

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Hydantoin, 5,5-diphenyl- (8 CI)
2,4-Imidazolidinedione, 5,5-diphenyl- (9 CI)
57-41-0
C15-H12-N2-O2
MW 252.26, MP 295-298 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
663 Blood, serum		GC	20	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 60.6 umol/l b) 59.8 umol/l c) 52.6 umol/l d) 45.6 umol/l e) 44.5 umol/l f) 24.3 umol/l	a) Dihydantoin brand b) Enkefal brand c) Hydantin brand d) Epanutin brand (after 1 wk) e) Epanutin brand (after 2 wk) f) Difhydan brand Steady state levels from 277 mg/day (5.3 mg/kg) dose. 8 female and 12 male epileptics (mean age 29.3 yr, mean weight 52.8 kg). DRUGS; ANTICONVULSANTS; BLOOD SERUM	Tammisto, P. Kauko, K. Viukari, M. 1976
664 Saliva		RIA	1	Not applicable	0.7 ug/ml	Dose rate not given. Sample from individual taking Dilantin DRUGS; ANTICONVULSANTS; DIPHENYLHYDANTOINS; BLOOD; SEMEN; SALIVA; MEASUREMENT METHODS	Shaler, R.C. Smith, F.P. Mortimer, C.E. 1978
665 Semen		RIA	1	Not applicable	0.6 ug/ml	Dose rate not given. Sample from individual taking Dilantin DRUGS; ANTICONVULSANTS; DIPHENYLHYDANTOINS; BLOOD; SEMEN; SALIVA; MEASUREMENT METHODS	Shaler, R.C. Smith, F.P. Mortimer, C.E. 1978

Hydracrylic acid, N,N-bis(2-chloroethyl)phosphorodiamidate (8 CI)
Propanoic acid, 3-((amino(bis(2-chloroethyl)amino)phosphinyl)oxy)- (9 CI)
22788-18-7
C7-H15-Cl2-N2-O4-P

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
666 Urine	Ingestion	MS	a) 4 b) 4 c) 4	a) 48-81 mg/24 hr b) 32-82 mg/24 hr c) 22-115 mg/24 hr	a) 62.04 mg/24 hr b) 61.75 mg/24 hr c) 81.75 mg/24 hr	a) After racemic (+ and -) drug administration b) After (+) enantiomer administration c) After (-) enantiomer administration 4 patients with squamous cell carcinoma of the lung, mean age 61 yr (54-68 yr). DRUGS; URINE; COMPARATIVE EVALUATIONS; METABOLISM; NEOPLASMS	Jarman, M. Milsted, R.A.V. Smyth, J.F. Kinas, R.W. Pankiewicz, K. Stec, W.J. 1979

Hydroxyethylnitrofurantoin (No postings in CHEMLINE).

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
667 Blood, plasma	Ingestion	CC	6	Not given	Maximum concentration: 1.20 ug/ml	120 mg administered orally Healthy volunteers, employees of the Department of Clinical Pharmacy 45 min DRUGS; URINE; BLOOD PLASMA; CHEMOTHERAPY	Vree, T.B. Hekster, Y.A. Baars, A.M. Damsma, J.E. van der Kleijn, E. Bron, J. 1979
668 Urine	Ingestion	CC	6	Not given	360 ug/min Maximum excretion rate	120 mg administered orally. 65.4% excreted unchanged. Healthy volunteers, employees of the Department of Clinical Pharmacy DRUGS; URINE; BLOOD PLASMA; CHEMOTHERAPY	Vree, T.B. Hekster, Y.A. Baars, A.M. Damsma, J.E. van der Kleijn, E. Bron, J. 1979

Iodine
7553-56-2
I2
AtW 126.9045, MP 113.60 C, BP 185.24 C, VP (solid) 0.03 mm Hg at 0 C, 0.305 mm Hg at 25 C, 2.158 mm Hg at 50 C, 26.78 mm Hg at 90 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
669 Lung		MS	100	0.65-1.2 x 10(E+4) ug/g dry wt	16.5 ug/g dry wt	Means are geometric. Samples from deceased Cincinnati, OH residents, age range 23-96 years with a median of 66 years, evenly divided between men and women, blacks and whites. Occupations included foundry workers, machinists, farmers, domestics, homemakers, clerical workers. Deaths were from normal causes. METALS; TRACE ELEMENTS; ALUMINUM; CADMIUM; CHROMIUM; COBALT; COPPER; GERMANIUM; IODINE; LEAD; MAGNESIUM; MANGANESE; MOLYBDENUM; SELENIUM; TITANIUM; VANADIUM; ZINC; AUTOPSIES; LUNGS; LYMPH NODES; URBAN AREAS; OHIO	Sweet, D.V. Crouse, W.E. Crable, J.V. 1978
670 Lymph node		MS	100	1.0-3400 ug/g dry wt	23.7 ug/g dry wt	Means are geometric. Samples from deceased Cincinnati, OH residents, age range 23-96 years with a median of 66 years, evenly divided between men and women, blacks and whites. Occupations included foundry workers, machinists, farmers, domestics, homemakers, clerical workers. Deaths were from normal causes. METALS; TRACE ELEMENTS; ALUMINUM; CADMIUM; CHROMIUM; COBALT; COPPER; GERMANIUM; IODINE; LEAD; MAGNESIUM; MANGANESE; MOLYBDENUM; SELENIUM; TITANIUM; VANADIUM; ZINC; AUTOPSIES; LUNGS; LYMPH NODES; URBAN AREAS; OHIO	Sweet, D.V. Crouse, W.E. Crable, J.V. 1978

Iron
7439-89-6
Fe
AtW 55.847, MP 1535 C (pure), 1000-1100 C (cast), 1500 C (wrought), 1100 C (steel), BP 3000 C, VP 1 mm Hg at 1767 C, 10 mm Hg at 2040 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
671 Blood		Colorimetry	a) 8 b) 4 c) 10 d) 5	a) 0.09-0.18 % DL b) 0.03-0.08 % DL c) 0.01-0.09 % DL d) 0.01-0.03 % DL	a) 0.07 % DL b) 0.05 % DL c) 0.06 % DL d) 0.02 % DL	a) Normal b) Bronchitis lungs c) Coalworkers lungs-simple pneumoconiosis d) Hematite lungs-complicated pneumoconiosis % DL = percentage dried formalin-fixed lung. The iron content of formalin fixed blood was taken to be 0.25%. IRON; METALS; LUNGS; BLOOD; OCCUPATIONAL DISEASES; FOUNDRIES; BRONCHITIS; TUBERCULOSIS; PNEUMOCONIOSIS	Guest, I. 1978
672 Blood		AAS	a) 25 b) 50 c) 25 d) 50	a) Not given b) Not given c) Not given d) Not given	a) 42.3 ug/100 ml b) 38.3 ug/100 ml c) 37.2 ug/100 ml d) 44.4 ug/100 ml	a) Maternal blood, birth weights < 2500 g b) Controls, birth weights > 2500 g c) Cord blood, birth weights < 2500 g d) Controls, birth weights > 2500 g Differences in maternal and cord significant at P< 0.05 and P< 0.01 levels, respectively. Women giving birth in Newark, N.J. Test and control groups matched for age (19.4 and 19.8 years), weights, smoking habits, ethnicity (84% black, 16% Hispanic) and socioeconomic status. METALS; COPPER; LEAD; IRON; MAGNESIUM; CALCIUM; BLOOD; INFANTS	Borden, J.D. Thind, I.S. Louria, D.B. Caterini, H. 1978
673 Blood		AAS	a) 17 b) 23 c) 5	a) 12.6-29.8 umol/l b) 13.1-38.1 umol/l c) < 1-10.9 umol/l	a) Not given b) Not given c) Not given	a) Healthy males 21-49 yr b) Healthy females 19-56 yr c) Iron deficient women. METALS; IRON; NAILS	Sobolewski, S. Lawrence, A.C.K. Bagshaw, P. 1978

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Iron
7439-89-6
Fe
At# 55.847, MP 1535 C (pure), 1000-1100 C (cast), 1500 C (wrought), 1300 C (steel), BP 3000 C, VP 1 mm Hg at 1787 C, 10 mm Hg at 2040 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
674 Blood, plasma		RS	20	a) Not given b) Not given	a) Approx 78 ug/100 ml b) Approx 40 ug/100 ml	a) At 16 wk gestation b) At 38 wk gestation Values are estimated from graph. Samples from 20 pregnant women at University of Colorado Medical Center. Subjects were Caucasians, middle or upper socioeconomic level, mean age of 22 yrs. Subjects were chosen on basis of good health and nutrition. No evidence of impaired glucose tolerance. No infants with congenital malformations. ZINC; COPPER; CHROMIUM; MANGANESE; IRON; METALS; MINERALS; PREGNANCY; MINERAL METABOLISM; BLOOD PLASMA; HAIR; TRACE ELEMENTS; COLORADO	Hambidge, K.M. Droegemueller, W. 1974
675 Blood, serum		Calorimetry	27	a) Not given b) Not given c) Not given d) Not given	a) 113 ug/100 ml b) 105 ug/100 ml c) 106 ug/100 ml d) 109 ug/100 ml	a) Males b) Females c) Nonpregnant women d) Women taking oral contraceptives Values are for serum Volunteers were 11 male and 16 female residents of Tucson, AZ, ages from 16-84 years. HAIR; IRON; MAGNESIUM; COPPER; ZINC; BLOOD SERUM; ORAL CONTRACEPTIVES; DIETS; TRACE ELEMENTS; AGE; METALS	Deeming, S.B. Weber, C.W. 1978

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Iron
7439-89-6
Fe
AtW 55.847, MP 1535 C (pure), 1000-1300 C (cast), 1500 C (wrought), 1300 C (steel), BP 3000 C, VP 1 mm Hg at 1787 C, 10 mm Hg at 2040 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
676 Blood, serum		AAS	46	a) Not given b) Not given c) Not given d) Not given	a) 91.2 ug/100 ml b) 111.4 ug/100 ml c) 98.0 ug/100 ml d) 117.1 ug/100 ml	a) Young women (Bushman) b) Lactating women (Bushman) c) Postmenopausal women (Bushman) d) Adult men (Bushman) Kung Bushmen inhabiting the northwestern region of the Kalahari desert in Botswana. HAIR; IRON; TRACE ELEMENTS; ZINC; DIETS; COPPER; PREGNANCY; BLOOD SERUM; LACTATION; METALS; SOUTH AFRICA; OHIO	Paumslag, N. Petering, H.G. 1976
677 Blood, serum		RIA	a) 14 b) 17	a) Not given b) Not given	a) 52.8 ug/dl b) 53.7 ug/dl	a) Dialysis patients b) Nondialysis patients 17 patients without renal failure, and 14 anemic dialysis patients. Average age of dialysis patients is 48.5 yr and duration of dialysis is 37 mo. Average age of nondialysis patients is 52.6 yr. BLOOD SERUM; BONE MARROW; IRON; HEMOGLOBINS	Mirahmadi, M.S. Paul, W.L. Winer, R.L. Dabir-Vaziri, N. Eyer, B. Gorman, J.T. Rosen, S.M. 1977

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Iron
7439-89-6
Fe
AtW 55.847, MP 1535 C (pure), 1000-1100 C (cast), 1500 C (wrought), 1300 C (steel), BP 3000 C, VP 1 mm Hg at 1787 C, 10 mm Hg at 2040 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
678 Blood, serum		Colorimetry	a) 31 of 998 b) 302 of 998 c) 410 of 998 d) 291 of 998 e) 54 of 998 f) 30 of 500 g) 12 of 30	a) <50 ug/100 ml b) 50-100 ug/100 ml c) 105-150 ug/100 ml d) 155-195 ug/100ml e) >200 ug/100 ml f) 200-290 ug/100 ml g) 90-210 ug/100 ml	a) Not given b) Not given c) Not given d) Not given e) Not given f) 232 ug/100 ml g) 171 ug/100 ml	a) From 2 studies of supposedly healthy people b) From 2 studies of supposedly healthy people c) From 2 studies of supposedly healthy people d) From 2 studies of supposedly healthy people e) From 2 studies of supposedly healthy people f) From 1 study of supposedly healthy people g) Samples several months later from people in f) Other data available. Samples sent to Metpath in Hackensack, NJ. Other abnormalities in group with high Fe were elevated uric acid, bilirubin, and transaminase. IRON; BLOOD; BLOOD SERUM; METALS; TRACE ELEMENTS	Crosby, W.H. Likhite, V.V. O'Brien, J.E. Forman, D. 1974
679 Blood, whole		AAS	12	9.9-59.1 mg	15.9 mg	Values are for menstrual blood per menstrual period. One estimate gives 43.4 + or - 2.3 ml blood lost per menses for average healthy female. 12 adolescent girls, mean age 13.6 yr. ZINC; MAGNESIUM; COPPER; IRON; ADOLESCENTS; MENSTRUATION; METALS; TRACE ELEMENTS	Greger, J.L. Buckley, S. 1977

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Iron
7439-89-6
Fe
Atw 55.847, MP 1535 C (pure), 1000-1100 C (cast), 1500 C (wrought), 1300 C (steel), BP 3000 C, VP 1 mm Hg at 1781 C, 10 mm Hg at 2040 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
680 Hair		AAS	27	a) Not given b) Not given c) Not given d) Not given	a) 87 ppm b) 65 ppm c) 62 ppm d) 73 ppm	a) Males b) Females c) Nonpregnant women d) Women taking oral contraceptives No trends in hair Fe with age. Volunteers were 11 male and 16 female residents of Tucson, AZ, ages from 16-84 years. HAIR; IRON; MAGNESIUM; COPPER; ZINC; BLOOD SERUM; ORAL CONTRACEPTIVES; DIETS; TRACE ELEMENTS; AGE; METALS; ARIZONA	Deeming, S.B. Weber, C.W. 1978
681 Hair		AAS	10	190-829 ug/g	Not given	Average of 89% Fe extracted with 1% nitric acid. Specimens from donors aged 12 to 60 yr and from various geographic exposure areas. SODIUM; MAGNESIUM; POTASSIUM; CALCIUM; MANGANESE; ZINC; NICKEL; COPPER; IRON; CADMIUM; LEAD; HAIR; NUTRITIONAL DEFICIENCIES; BIOACCUMULATION; MINERAL METABOLISM; METALS; TRACE ELEMENTS	Hinners, T.A. Terrill, W.J. Kent, J.L. Colucci, A.V. 1974

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Iron
7439-89-6
Fe
AtW 55.847, MP 1535 C (pure), 1000-1300 C (cast), 1500 C (wrought), 1300 C (steel), BP 3000 C, VP 1 mm Hg at 1787 C, 10 mm Hg at 2040 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
682 Hair		AAS	133	a) 83-680 ppm b) 60-340 ppm c) 40-625 ppm d) 224-2,370 ppm e) Not given f) Not given	a) 296 ppm b) 173 ppm c) 265 ppm d) 905 ppm e) 43.2 ppm f) 29.9 ppm	a) Young women (Bushman) b) Lactating women (Bushman) c) Postmenopausal women (Bushman) d) Men (Bushman) e) Bantu women, lactating f) Cincinnati women, nonlactating Kung Bushmen inhabiting the northwestern region of the Kalahari desert in Botswana. Compared with Bantu population from Baragwanath Hospital, Johannesburg, Republic of South Africa, and inner-city mothers from Cincinnati. HAIR; IRON; TRACE ELEMENTS; ZINC; DIETS; COPPER; PREGNANCY; BLOOD SERUM; LACTATION; METALS; OHIO; SOUTH AFRICA	Baumslag, N. Petering, H.G. 1976
683 Hair		ES	20	a) Not given b) Not given	a) Approx 6.0 ug/g dry wt b) Approx 4.7 ug/g dry wt	a) At 16 wk gestation b) At 38 wk gestation Values are estimated from graph. Samples from 20 pregnant women at University of Colorado Medical Center. Subjects were Caucasians, middle or upper socioeconomic level, mean age of 22 yrs. Subjects were chosen on basis of good health and nutrition. No evidence of impaired glucose tolerance. No infants with congenital malformations. ZINC; COPPER; CHROMIUM; MANGANESE; IRON; METALS; MINERALS; PREGNANCY; MINERAL METABOLISM; BLOOD PLASMA; HAIR; TRACE ELEMENTS; COLORADO	Hambidge, K.M. Droegemueller, W. 1974

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Iron
7439-89-6
Fe
AtW 55.847, MP 1535 C (pure), 1000-1300 C (cast), 1500 C (wrought), 1300 C (steel), BP 3000 C, VP 1 mm Hg at 1767 C, 10 mm Hg at 2040 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
684 Hair		AAS	a) 50 b) 51 c) 76	a) Not given b) Not given c) Not given	a) 22.1 ug/g b) 15.6 ug/g c) 30.9 ug/g	a) Maternal scalp hair b) Maternal pubic hair c) Neonatal scalp hair Hair samples from patients at Cincinnati General Hospital, 68% black, 32% white. Mean age was 22.5 yr. Mean parity of the group was 2.6. HAIR; TRACE ELEMENTS; NEWBORN; METALS; ZINC; COPPER; IRON; LEAD; PLACENTA	Baumslag, N. Yeager, D. Levin, L. Petering, H.G. 1974
685 Liver		ES	10	Not given	17600 ug/g	Arithmetic mean Geometric mean=14800 ug/g Concentrations based on ash weight Samples from ten healthy adult males who were accident victims. METALS; SILVER; ALUMINUM; BARIUM; CADMIUM; COBALT; CHROMIUM; COPPER; IRON; MANGANESE; MOLYBDENUM; NICKEL; LEAD; TIN; STRONTIUM; TITANIUM; ZINC; LIVER	Perry, H.M., Jr. Perry, E.F. Hixon, B.B. 1977

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Iron
7439-89-6
Fe
AtW 55.847, MP 1535 C (pure), 1000-1300 C (cast), 1500 C (wrought), 1300 C (steel), BP 3000 C, VP 1 mm Hg at 1787 C, 10 mm Hg at 2040 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
686 Lung		Mossbauer	a) 8 b) 6 c) 4 d) 10 e) 6 f) 5	a) 0.07-0.17 % DL b) 0.05-0.19 % DL c) 0.25-1.07 % DL d) 0.16-0.87 % DL e) 0.27-1.93 % DL f) 2.6-11.0 % DL	a) 0.1 % DL b) 0.07 % DL c) 0.51 % DL d) 0.44 % DL e) 0.88 % DL f) 6.8 % DL	a) Normal b) Tuberculosis lesion c) Bronchitis d) Coalworkers lungs-simple pneumoconiosis e) Foundry lungs-simple pneumoconiosis f) Hematite lungs-complicated pneumoconiosis % DL = percentage of dried formalin-fixed lung material Lung samples from normal, bronchitis, tuberculosis, coal, foundry, pottery and hematite workers groups. IRON; METALS; LUNGS; BLOOD; OCCUPATIONAL DISEASES; FOUNDRIES; BRONCHITIS; TUBERCULOSIS; PNEUMOCONIOSIS	Guest, L. 1978
687 Lung		AAS	26	593-5310 ug/g dry wt	2444 ug/g dry wt	None detected in 10 of the samples. Tissues from deceased West Virginia bituminous coal miners. METALS; MINERALS; BERYLLIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; NICKEL; TITANIUM; VANADIUM; ZINC; LUNGS; COAL; SILICA MATERIALS; WEST VIRGINIA; AUTOPSIES; MINING	Crable, J.V. Keenan, R.G. Kinser, R.E. Smallwood, A.W. Mauer, P.A. 1968

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Iron
7439-89-6
Fe
AtW 55.847, MP 1535 C (pure), 1000-1300 C (cast), 1500 C (wrought), 1300 C (steel), BP 3000 C, VP 1 mm Hg at 1787 C, 10 mm Hg at 2040 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
688 Milk		AAS	50	Less than 0.1-1.6 ug/ml	0.21 ug/ml	Analysis of variance suggests one sample of milk/individual does not provide a representative estimate of Fe content. Data given for variations by maternal age, parity, lactation history and for several experimental periods. Samples from Pennsylvania mothers. 42 subjects were between the ages of 20 and 30, while 8 were over 30. All subjects had healthy, full-term infants. COPPER; IRON; ZINC; METALS; MINERALS; METABOLISM; LACTATION; DIETS; MILK; NEWBORN; PENNSYLVANIA	Picciano, M.F. Guthrie, H.A. 1976
689 Nail		AAS	a) 17 b) 23 c) 5 d) 5 e) 4 f) 15	a) 6-23 ug/g b) 6-26 ug/g c) < 1-3 ug/g d) 2-38 ug/g e) 7-16 ug/g f) < 1-22 ug/g	a) 12 ug/g b) 13 ug/g c) Not given d) Not given e) Not given f) Not given	a) Healthy males 21-49 yr b) Healthy females 19-56 yr c) Iron deficient women (serum iron < 11 umol/l) d) Group c during iron therapy e) Randomly selected patients having ir n therapy f) Randomly selected postmortem samples. METALS; IRON; NAILS	Sobolewski, S. Lawrence, A.C.K. Bagshaw, P. 1978

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Iron
7439-89-6
Fe
Atw 55.847, MP 1535 C (pure), 1000-1200 C (cast), 1500 C (wrought), 1300 C (steel), BP 3000 C, VP 1 mm Hg at 1787 C, 10 mm Hg at 2040 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
690 Placenta			58	a) Not given b) Not given c) Not given d) Not given	a) 82.186 ug/g wet wt b) 81.495 ug/g wet wt c) 80.682 ug/g wet wt d) 85.075 ug/g wet wt	a) All cities b) Augusta, GA c) Birmingham, AL d) Charlotte, NC Metal levels correlated with enzyme activities. Samples from 58 normal placentas collected immediately at delivery in hospitals in Charlotte, NC, Birmingham, AL and Augusta, GA. PLACENTA; MANGANESE; BARIUM; CADMIUM; SELENIUM; MERCURY; TIN; VANADIUM; BERYLLIUM; SILVER; COBALT; NICKEL; CHROMIUM; COPPER; ZINC; LEAD; IRON; PLATINUM; BORON; ARSENIC; LITHIUM; METALS; TRACE ELEMENTS; ENZYMES; NORTH CAROLINA; ALABAMA; GEORGIA	Karp, W.B. Robertson, A.F. 1977
691 Teeth		AAS	a) 4 b) 4 c) 26	a) 26-47 ppm b) 13-15 ppm c) Not given	a) 33 ppm b) 14 ppm c) 22.5 ppm	a) Teeth from fetuses, 1972-1973, enamel b) Teeth from fetuses, 1972-1973, dentine c) Teeth from cases of stillbirth and neonatal death, 1972-1973 LEAD; NICKEL; ZINC; CADMIUM; MANGANESE; IRON; METALS; TRACE ELEMENTS; TEETH; INFANTS; FETUS; UNITED KINGDOM	Stack, M.V. Burkitt, A.J. Nickless, G. 1976

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Iron
7439-89-6
Fe
AtW 55.847, MP 1535 C (pure), 1000-1300 C (cast), 1500 C (wrought), 1300 C (steel), BP 3000 C, VP 1 mm Hg at 1787 C, 10 mm Hg at 2040 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
692 Urine		AAS	11	a) Not given b) Not given	a) 0.33 mg/day b) 0.24 mg/day	a) Losses on diet with 11.32 mg or 11.64 mg Zn daily b) Losses on diet with 10.52 mg or 10.84 mg Zn daily Samples from girls between 12.5 and 14.2 years of age in a metabolic unit of Purdue University. The lower level of zinc was probably not enough to maintain zinc balance in adolescent girls, but the higher level caused increased fecal losses of copper. ZINC; NITROGEN; COPPER; IRON; MANGANESE; URINE; FECES; MINERAL METABOLISM; TRACE ELEMENTS; DIETS; ADOLESCENTS; METALS; INDIANA	Greger, J.L. Zaikis, S.C. Abernathy, R.P. Bennett, O.A. Huffman, J. 1978

Isonipecotic acid, 1-methyl-4-phenyl-, ethyl ester (8 CI)
4-Piperidinecarboxylic acid, 1-methyl-4-phenyl-, ethyl ester (9 CI)
57-42-1
C15-H21-N-O2
MW 247.35, MP 186-189 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
69% Urine	Intramuscular injection	GC	7	a) Not given b) Not given c) Not given d) Not given	a) 1.71 mg b) 1.81 mg c) 13.99 mg d) 4.17 mg	a) Meperidine b) Normeperidine c) Meperidinic acid d) Normeperidinic acid Cumulative 24 hr excretion after single 36 mg/m2 dose. 2.8-3.4 hr DRUGS; NARCOTICS; MEPERIDINES; URINE; METABOLITES; MEASUREMENT METHODS	Wainer, I.W. Stambaugh, J.E. 1978

Isoquinoline, 8-amino-1,2,3,4-tetrahydro-2-methyl-4-phenyl- (8 CI)
8-Isoquinolinamine, 1,2,3,4-tetrahydro-2-methyl-4-phenyl- (9 CI)
28526-68-5
C16-H18-N2

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
694 Blood, plasma		GC		a) 2000-6000 ug/l b) 200-800 ug/l	a) Not given b) Not given	a) 1-2 hr after 75 mg dose b) 8 hr after 75 mg dose Drowsiness, tremor, sinus tachycardia, transient hypertension, coma. Low incidence of serious adverse reactions when taken in overdose amounts. 2 hr BLOOD PLASMA; DRUGS; METABOLITES; ANTIDEPRESSIVE AGENTS	Dawling, S. Braithwaite, R. Crome, P. 1979

L-Ascorbic acid
50-81-7
C6-H8-O6
MW 176.12, MP 190-192 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
695 Urine	Intravenous	Chem	5	74.0-87.3 mg	82.6 mg	Mean recovery of 1 g dose from subjects whose body stores were saturated with ascorbic acid. Samples from 5 healthy volunteers, 4 males, 1 female, ages 25-32 yr. 3,37 hr VITAMINS; METABOLISM	Yung, S. Mayersohn, M. Robinson, J.B. 1978

Lanthanum
7439-91-0
La
AtW 138.906, MP 920 C, BP 3458 C, VP 3230 mm Hg at 900 C, 3420 mm Hg at 760 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
606 Skin		NA	a) 5 b) 5 c) 10 (Samples)	a) 0.058-0.094 ug/g dry wt b) 0.074-0.118 ug/g dry wt c) 0.009-0.049 ug/g dry wt	a) 0.072 ug/g dry wt b) 0.070 ug/g dry wt c) 0.031 ug/g dry wt	a) Normal b) Psoriatic uninvolved c) Psoriatic involved Daily loss by desquamation as much as half the normal urinary excretion of lanthanum in subjects with whole-body psoriatic involvement. Specimens from trunk region of 14 males in Sweden. 9 were suffering from psoriasis (ages 0-59 yr, mean 46), and 5 had no evidence of skin disorder (ages 19-57 yr, mean 33). BROMINE; CADMIUM; CHROMIUM; MOLYBDENUM; RUBIDIUM; SELENIUM; ARSENIC; GOLD; CESIUM; MERCURY; LANTHANUM; ANTIMONY; SCANDIUM; SAMARIUM; TUNGSTEN; EPIDERMIS; SKIN DISEASES; METALS; TRACE ELEMENTS	Molin, L. Wester, P.O. 1974

Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1169 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
697 Adipose		AAS	3	0.18-2.0 ug/g wet wt	0.84 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
698 Adrenal gland		AAS	14	0.24-2.5 ug/g wet wt	1.2 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Lead
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Pb
At# 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
699 Aorta		AAS	18	0.6-7.6 ug/g wet wt.	3.5 ug/g wet wt.	There was significant correlation of Pb levels and age of subject. Aortas collected at autopsy from 18 male residents of Baltimore who had died suddenly, and who had no apparent disease conditions at time of death. LEAD; URBAN AREAS; BIOACCUMULATION; AGE; AUTOPSIES; BLOOD VESSELS; METALS; MARYLAND	Poklis, A. 1975
700 Aorta	Ingestion	AAS	a) 97 b) 52	a) Not given b) Not given	a) 0.591 ug/g b) 0.459 ug/g	a) Males b) Females Biological half-times (BHT) obtained by observation of accumulation from 0-90 years and calculation by a mathematical model. Autopsy samples from Tokyo accident victims with no known occupational exposure. 100 years CADMIUM; MERCURY; LEAD; METALS; AUTOPSIES; BIOACCUMULATION; AGE; SEX; FOODS; JAPAN	Sugita, M. 1978

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Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
701 Blood	Inhalation Ingestion	APDC-MIBK AAS	204	a) 5-40 ug/100 ml b) Not given c) Not given d) Not given	a) 15 ug/100 ml b) 18.2 ug/100 ml c) 13.0 ug/100 ml d) 14.9 ug/100 ml	a) All children b) Children with history of pica c) Children of occupationally exposed parents d) Children of non-occupationally exposed parents None of the children had abnormally high blood Pb. Children resided close to lead-smelting complex. CHILDREN; BLOOD; LEAD; METALS; AUSTRALIA; SMELTERS	Ouw, H.K. Bisby, J.A. Shandar, A.G. 1976
702 Blood	Inhalation Ingestion	AAS	215 children, 105 mothers	a) 28-57 ug/100 ml b) 15-63 ug/100 ml	a) 40 ug/100 ml b) 32 ug/100 ml	a) 0-100 meters from smelting works b) 400-500 meters from smelting works Levels of 40 ug or more/100 ml blood suggests excessive exposure. There is no significant relationship between intelligence and behavior disorder and current Pb level. The people live in the vicinity of lead smelting works within 500 meters of the factory. A dump for battery-lead scrap is nearby. Smelting works, dump for battery lead scrap, wheels of vehicles, working clothes LEAD; CHILDREN; BLOOD; OCCUPATIONAL HAZARDS; INDUSTRIAL DISEASES; BEHAVIOR DISORDERS; METALS; SMELTERS; UNITED KINGDOM	Lansdown, R.G. Clayton, B.E. Graham, P.J. Shepherd, J. Delves, H.T. Turner, W.C. 1974

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Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
703 Blood	Inhalation	AAS	3, 3 Controls	a) 23-31 ug/100 ml b) 32-52 ug/100 ml	a) 26.5 ug/100 ml b) 41 ug/100 ml	a) Pre-exposure b) Post-exposure Fumes from firing weapons HEALTH HAZARDS; LEAD POISONING; FUMES; OCCUPATIONAL DISEASES; INDUSTRIAL HYGIENE; METALS; AIR POLLUTION; FLORIDA; BLOOD; URINE	Anania, T.L. Lucas, J.B. Seta, J.A. 1974
704 Blood	Ingestion Inhalation	AAS	2209, 355 Controls	a) Not given b) Not given c) Not given d) Not given	a) 55.8 ug/100 ml b) 39.4 ug/100 ml c) 10.8 ug/100 ml d) 10.2 ug/100 ml	a) Heavy occupational exposure, 20 or more cigarettes daily b) Heavy occupational exposure, never smoked c) Controls, 20 or more cigarettes daily d) Controls, never smoked Samples from 2209 men occupationally exposed to lead and from 355 controls representing the general population. Effect of smoking on lead absorption in workers may be explained by impairment of lung defense mechanisms. Environmental contamination of cigarettes and fingers with lead particles. LEAD; BLOOD; SMOKING; TOBACCOS; POPULATION EXPOSURE; OCCUPATIONAL HAZARDS; LUNGS; AGE; METALS; FINLAND	Tola, S. Nordman, C.H. 1977

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
705 Blood		AAS	64, 30 Controls	a) Not giver b) Not given c) Not given	a) 25.5 ug/dl b) 18.7 ug/dl c) 18.8 ug/dl	a) Mentally retarded, etiology unknown b) Mentally retarded, probable etiology c) Controls Samples from subjects drawn from two clinics in New York City. Retarded subjects were patients at Developmental Evaluation Clinic, age range from 4-12, 65 males and 29 females, 62 Blacks, 23 Hispanics, 9 Caucasians, I.Q.'s of 55-84 in test group. BLOOD; LEAD; METALS; RETARDATION; CHILDREN; AGE; NEW YORK	David, O. Hoffman, S. McGann, B. Sverd, J. Clark, J. 1976
706 Blood	Inhalation Ingestion		73	a) 12-61 ug/100 ml b) 8-40 ug/100 ml	a) 31 ug/100 ml b) 19 ug/100 ml	a) Smelter area b) Urban control area Method of analysis not given. Survey between April and November, 1973 of 16 families living less than 150 meters from Smelter A and of 8 urban control families. Non-specific neurological abnormalities Reduction in peripheral nerve velocity Increased excretion of ALA and coproporphyrins. Increased density in bone metaphyses. LEAD; CHILDREN; ADULTS; DUST; METABOLISM; BLOOD; HAIR; SMELTERS; COPROPORPHYRINS; METALS; CANADA	Roberts, T.M. Hutchinson, T.C. Paciga, J. Chattopadhyay, A. Jervis, R.E. Van Loon, J. Parkinson, D.K. 1974

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
707 Blood		AAS	5	a) 50-60 ug/100 ml b) 20-40 ug/100 ml	a) 54 ug/100 ml b) 36 ug/100 ml	a) Before chelation therapy b) After chelation therapy Five adult male demolition workers from a work force dismantling old iron structures covered with lead-containing paint. LEAD; LIVER; PROTOPORPHYRINS; LEVULINIC ACIDS; ENZYMES; OCCUPATIONAL HAZARDS; METALS	Fischbein, A. Alvares, A.P. Anderson, K.E. Sassa, S. Kappas, A. 1977
708 Blood		AAS	18	2.1-6.0 ppm	3.7 ppm	Determinations were also done on soil and interior paint, possible sources of contamination. 18 preadolescent Negro children in a Charleston, SC dental clinic. BLOOD; HAIR; TEETH; CHILDREN; LEAD; SOILS; PAINTS; METALS; SOUTH CAROLINA	Habercam, J.W. Keil, J.E. Beigart, J.R. Croft, H.W. 1974
709 Blood		AAS	119	2-81 ug/100 ml	26.2 ug/100 ml	Demonstration of a blood Pb concentration (BLC) of diagnostic significance in a family dog increased the probability sixfold of finding, in the family, child with a BLC similarly increased. 119 children from 83 low-income suburban Illinois families LEAD; CHILDREN; DOGS; BIOACCUMULATION; BLOOD; METALS; ILLINOIS	Thomas, C.W. Rising, J.L. Moore, J.K. 1976

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
710 Blood	Inhalation	AAS	a) 48 b) 47	a) Not given b) Not given	a) 32.9 ug/100 ml b) 14.3 ug/100 ml	a) Study group b) Controls Levels in 7 of 48 vendors exceeded 40 ug/100 ml, an accepted "level of concern." Samples from 48 gasoline vendors, employed in this capacity for a mean of 7.7 years, mean age of 31.6 years control group of 47 persons unconnected with gasoline industry, mean age of 25.5 years. LEAD; METALS; BLOOD; LEAD ORGANIC COMPOUNDS; OCCUPATIONAL HAZARDS; SKIN; GASOLINE; AUSTRALIA	Moore, P.J. Pridmore, S.A. Gill, G.V. 1976
711 Blood	Ingestion	AAS	a) 18 b) 5 c) 5 d) 4 e) 6	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 21.8 ug/100 ml b) 41.6 ug/100 ml c) 46.2 ug/100 ml d) 65.0 ug/100 ml e) 73.3 ug/100 ml	a) 0-1000 ppm b) 1000-2000 ppm c) 2000-3000 ppm d) 5000-6000 ppm e) 7000-80,000 ppm Dust lead. Investigation during December, 1975 and January, 1976 in Memphis, Tennessee. Household contamination LEAD; BLOOD; CHILDREN; OCCUPATIONAL HAZARDS; METALS; METAL POISONING; TENNESSEE	Baker, E.L., Jr. Folland, D.S. Taylor, T.A. Frank, H. Peterson, W. Lovejoy, G. Cox D. Housworth, J. Landrigan, P.J. 1977

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AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
712 Blood		AAS	a) 24 b) 23	a) 23-64 ug/100 ml b) 18-61 ug/100 ml	a) 37.1 + or - 10.9 ug/100 ml b) 35.8 + or - 10.1 ug/100 ml	a) Males b) Females Children, preschool, 4-5 yrs. Clinically asymptomatic with moderately high exposure to Pb. Neither elevated blood levels (over range 18-64 ug/100 ml) nor presence of lead worker in the residence had significant effects on developmental and behavioral functions tested. Group with Pb levels between 35 and 64 ug/100 ml did consistently less well than did those with lower lead levels. Nearby lead battery manufacturing works LEAD; BLOOD; CHILDREN; METALS; BEHAVIOR DISORDERS; UNITED KINGDOM	Ratcliffe, J.M. 1977

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
713 Blood	Ingestion		a) 95 b) 250 c) 250	a) 12-150 ug/100 ml b) 10-78 ug/100 ml c) 10-160 ug/100 ml	a) 43.9 ug/100 ml b) 31.3 ug/100 ml c) 30.7 ug/100 ml	a) 1967 b) 1968 c) 1971 Data available for other areas, ages and ethnic groups. Children less than 6 yr, predominantly black, in urban area with high incidence of Pb poisoning. Symptoms of toxicity in 12% of patients treated in 1967 and in 4.2% of patients trated in 1971. Maturational delay in speech, impaired intellectual performance, impaired abstract reasoning and impaired verbalization of concepts were noted with elevated blood levels. One death from Pb poisoning occurred in 200,000 children tested between 1967-1971. There were 35 such deaths in the Chicago area. Peeling paint and plaster LEAD; METALS; ILLINOIS; CHILDREN; URBAN AREAS; METAL POISONING; BLOOD; BEHAVIOR DISORDERS; AGE; PICA; NERVOUS SYSTEM DISEASES; ILLINOIS	Sachs, H.K. 1974

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
714 Blood				10-44 ug/100 ml	18.3 ug/100 ml	Children 5-12 yrs old, NY City Children, 5-12 yrs of age, from impoverished areas of New York City. No frank lead poisoning and no manifest psychological difficulties. Behavioral evaluations correlated significantly with blood lead levels. Treatment of hyperactive and retarded children with penicillamine for 2 months resulted in improved behavior and an improvement in I.Q. of about 7 points (90-97). LEAD; METALS; CHILDREN; URBAN AREAS; BEHAVIOR DISORDERS; POPULATION EXPOSURE; BLOOD; NEW YORK	Anon 1978
715 Blood	Inhalation	AAS	a) 333 b) 333 c) 109 d) 109	a) 3.1-31 ug/100 ml b) 2.7-27.3 ug/100 ml c) 5.0-20.9 ug/100 ml d) 3.0-18.1 ug/100 ml	a) 10.6 ug/100 ml b) 8.1 ug/100 ml c) 10.5 ug/100 ml d) 8.9 ug/100 ml	a) Nonsmokers, mothers aged 16-43 yr, mean 26.3 yr b) Newborn of nonsmokers c) Smokers, mothers aged 27-36 yr, mean 25.6 yr d) Newborn of smokers Samples from 333 nonsmoking and 109 smoking European women and their newborn. The women lived in or near Brussels, Tournai, Leuven (Louvain), and Antwerp, Belgium representing rural, urban, and industrial areas. BLOOD; INFANTS; SMOKING; LEAD; MERCURY; CADMIUM; METALS; CARBON INORGANIC COMPOUNDS; COMPARATIVE EVALUATIONS; RURAL AREAS; URBAN AREAS; INDUSTRIAL AREAS; BELGIUM; PLACENTA; UMBILICAL CORD	Buchet, J.P. Roels, H. Hubermont, G. Lauwerys, R. 1978

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
716 Blood	Inhalation Ingestion	AAS	a) 503 b) 503 c) 474 d) 474 e) 29 f) 29	a) 3.1-31 ug/100 ml b) 2.7-27.3 ug/100 ml c) 3.1-31 ug/100 ml d) 2.7-27.3 ug/100 ml e) 7.9-18 ug/100 ml f) 3.2-18.7 ug/100 ml	a) 10.2 ug/100 ml b) 8.4 ug/100 ml c) 10.1 ug/100 ml d) 8.3 ug/100 ml e) 10.8 ug/100 ml f) 9.4 ug/100 ml	a) All women b) All newborn c) European women, aged 16-45 yr, mean 26 yr d) European newborn e) Afro-Asian women, aged 18-40 yr, mean 26 yr f) Afro-Asian newborn Samples taken at delivery from mothers by venipuncture and from newborn at the umbilical cord. The women lived in areas of Belgium (Antwerp, Brussels, Louvain, Tournai and Vilvoorde) with various degrees of industrialization and urbanization. BLOOD; ADULTS; INFANTS; LEAD; MERCURY; CADMIUM; CARBON INORGANIC COMPOUNDS; METALS; BELGIUM; COMPARATIVE EVALUATIONS; UMBILICAL CORD; PLACENTA	Lauwerys, R. Buchet, J.P. Roels, H. Bubermont, G. 1978

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
717 Blood		AAS	216	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 23.1 ug/100 ml b) 18.4 ug/100 ml c) 28.3 ug/100 ml d) 23.3 ug/100 ml e) 12.9 ug/100 ml f) 11.9 ug/100 ml	a) Policemen on foot patrol b) Office workers in downtown Houston (control for (a)) c) Garage attendants d) Orderlies and custodians (control for (b)) e) Females living within 2 blocks of freeway f) Females living away from freeway (control for (e)) Six groups, each of 26 individuals, in the metropolitan area of Houston, TX, policemen on foot patrol, office workers in downtown Houston, garage attendants, orderlies and custodians, females living within two blocks of a freeway, and females living away from a freeway. CADMIUM; LEAD; TRACE ELEMENTS; TEXAS; BLOOD; URINE; HAIR; FECES; ZINC; MANGANESE; COPPER; PLATINUM; PALLADIUM; METALS; AUTOMOTIVE; OCCUPATIONAL HAZARDS	Johnson, D.E. Tillery, J.B. Prevost, R.J. 1975

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AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
718 Blood		AAS	43, 10 Controls	a) 66-124 ug/100 ml b) 80-85 ug/100 ml c) 43-76 ug/100 ml d) Not given e) Not given	a) 97 ug/100 ml b) 83 ug/100 ml c) 60 ug/100 ml d) 25 ug/100 ml e) 19 ug/100 ml	a) Employees in furnace b) Employees in shop c) Employees in office d) Families adjacent to smelter e) Control Employees at a lead scrap smelter in Troy, Alabama. Six members of two families who resided 50 and 100 meters respectively from the smelter. Ten adult volunteers who resided 1.6-11.3 kilometers from the smelter. lead poisoning, lead colic, confusion and hallucinations (lead encephalopathy). LEAD POISONING; SMELTERS; BLOOD; HAIR; ERITHROCYTES; PORPHYRINS; METABOLISM; DISEASES; SOILS; VEGETATION; LEAD; MILK; METALS; ANIMAL POPULATIONS; OCCUPATIONAL HAZARDS; ALABAMA	Levine, R.J. Moore, R.M., Jr. McLaren, G.D. Barthel, W.F. Landrigan, P.J. 1976

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
719 Blood		ASV	6	59-68 ug/100 ml	Not given	Analytical method, control values not given. Data from 6 patients of the Childhood Lead Clinic of the John F. Kennedy Institute in Baltimore. Control data derived from inpatients (Pediatric Clinical Research Unit of the Johns Hopkins Hospital) without neurological disorders. Controls resided in suburban areas in new housing. Hyperirritability, hyperactivity in 3 of 6 six children, disturbed heme synthesis, altered catecholamine metabolism. BLOOD; URINE; CHILDREN; LEAD; METALS; MICE; NEUROLOGIC MANIFESTATIONS; HEMES; MARYLAND	Silbergeld, E.K. Chisholm, J.J. Jr. 1976
720 Blood		AAS	2	a) Not given b) Not given	a) 40 ug/100 ml b) 42 ug/100 ml	a) Child b) Adult Other data given. Samples from residents of Denver, Colorado, age range 1-82 yr, 39% white, 18% black, 42% Mexican-American, 6.7 mean residential years in area, one case of possible occupational exposure. CADMIUM; POPULATION EXPOSURE; METALS; COLORADO; SMELTERS; AIR POLLUTION; TOBACCOS; SMOKING; BLOOD; URINE	Wysowski, D.K. Landrigan, P.J. Ferguson, S.W. Fontaine, R.E. Tsongas, T.A. Porter, B. 1978

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
721 Blood		AAS	a) 35 b) 37	a) 0.024-0.072 ug/10(E + 9) RBC b) 0.021-0.076 ug/10(E + 9) RBC	a) 0.044 ug/10(E + 9) RBC b) 0.037 ug/10(E + 9) RBC	a) Maternal erythrocytes b) Fetal erythrocytes Matched pairs of pregnant women and their fetuses residing in or near Cleveland, Ohio Selections made without regard for prenatal or intrapartum medical problems although indepth clinical information was recorded. Significant inhibition of ALAD in both maternal and fetal erythrocytes. ERYTHROCYTES; FETUS; PREGNANCY; ENZYMES; URBAN AREAS; POPULATION EXPOSURE; METALS; LEAD; BLOOD; OHIO	Kuhnert, P.M. Erhard, P. Kuhnert, B.R. 1977
722 Blood		ASV	a) 89 b) 90	a) <1-81 ug/100 ml b) 0-3.87 ug/100 ml	a) 14.6 ug/100 ml b) 0.83 ug/100 ml	a) Ann Arbor population b) Yanomamo population 10 blood samples cross-checked using atomic absorption showed the anodic stripping voltammetry analyses had a +13.7% bias. 100 blood donors, 18-58 yr old, from Ann Arbor, Michigan. 137 Yanomamo Indians from Venezuela. BLOOD; URINE; HAIR; VENEZUELA; MERCURY; CADMIUM; LEAD; COPPER; METALS; MICHIGAN	Hecker, L.H. Allen, H.E. Dinman, B.D. Neel, J.V. 1974

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
723 Blood		Dithizone	a) 25 b) 21	a) 10-25 ug/100 ml b) 50-80 ug/100 ml	a) 20.4 ug/100 ml b) 56.9 ug/100 ml	a) Controls b) Subjects Children selected according to blood Pb level. No significant difference in protein, caloric or iron intake between children with Pb poisoning and controls. Forty-six children, aged 24 to 47 months who were patients at a neighborhood health center. Ethnic composition was 51% Black, 38% Spanish-surnamed, and 11% Caucasian. LEAD; CHILDREN; DIETS; METALS; IRON; LEAD POISONING; CONNECTICUT; BLOOD	Mooty, J. Ferrand, C.F., Jr. Harris, P. 1975
728 Blood		Dithizone	1 (31 samples)	12-42 ug/100 g	19.13 ug/100 g	The sample value of 42 ug/100 g is an outlying value. If rejected, the mean is 18.37 ug/100 g and range is 12 to 28 ug/100 g. 35 blood specimens obtained from a volunteer donor in a single collection. BLOOD; LEAD; MEASUREMENT METHODS; METALS; OHIO	Lerner, S. 1975

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
725 Blood			2	a) Not given b) Not given	a) 35 ug/100 ml b) 70 ug/100 ml	a) Physician b) Child Physician and 3 yr old daughter living in East Boston, site of dense traffic for airport, racetrack and seashore. Author comments, in letter to the Editor, that anemia is common in levels of 37 to 60 ug/100 ml, a level not far removed from that of himself and his daughter. LEAD; METALS; URBAN AREAS; BIOACCUMULATION; BLOOD; ANEMIA; AIR POLLUTION; AUTOMOTIVE; MASSACHUSETTS	Epstein, P. 1974
726 Blood		AAS	a) 11 b) 10 c) 6 d) 4	a) Not given b) Not given c) Not given d) Not given	a) 34.00/ug/100 ml b) 45.09 ug/100 ml c) 56.83 ug/100 ml d) 46.75 ug/100 ml	a) Before exposure b) 1 month post-exposure c) 3 months post-exposure d) 9 months post-exposure Samples from workers employed in storage battery plant in Italy. No symptoms of lead poisoning during the study. Rate of abnormal metaphases, mostly with chromatid and one-break chromosome aberrations, was approximately doubled after one month of work. Fumes LEAD; INDUSTRIAL PLANTS; CHROMOSOMAL ABERRATIONS; INDUSTRIAL HYGIENE; URINE; BLOOD; METALS; ITALY	Forni, A. Cambiaghi, G. Secchi, G.C. 1976

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
727 Blood	Inhalation	Dithizone	a) 8 b) 8	a) Not given b) Not given	a) 26.6 ug/100 ml b) 97.42 ug/100 ml	a) Control group b) Lead-poisoned group Samples from print-shop workers in Turkey, mean age of 35.8 years, mean period of employment 20.1 years. Lead-induced colic, metallic taste, constipation, anorexia, arthralgia, paresthesia, and headache were observed in lead-intoxicated workers. Significant erythrocytosis and hypochromia. Mean corpuscular Hb was significantly lower than control values. Fumes LEAD; METALS; PRINTING INDUSTRY; INDUSTRIAL EMISSIONS; ANEMIA; TURKEY; BLOOD	Canberk, A. Sehirli, I. Canberk, Y. Koyuncuoglu, H. 1978

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AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
728 Blood	Inhalation Ingestion	AAS	a) 86 b) 78 c) 46 d) 78	a) 40-69 ug/100 ml b) 1-39 ug/100 ml c) 22-58 ug/100 ml d) 15-39 ug/100 ml	a) 48.3 ug/100 ml b) 26.9 ug/100 ml c) 40.5 ug/100 ml d) 26.5 ug/100 ml	a) Lead-absorption group, 1972 b) Controls, 1972 c) Lead absorption group, 1973 d) Controls, 1973 Samples from children between ages of 3 yr, 9 mo to 15 yr, 11 mo living within 6.6 km of a lead smelter in El Paso, Texas. Controls matched with age, sex, socioeconomic status, length of residence in area and language spoken. Chronic absorption may result in subtle but statistically significant impairment of non-verbal cognitive and perceptual-motor skills. However, impairment could have preceded lead absorption. Lead smelter LEAD; METALS; CHILDREN; SMELTERS; INDUSTRIAL EMISSIONS; NEUROLOGIC MANIFESTATIONS; PENICILLAMINE; BLOOD; PICA; TEXAS	Landrigan, P.J. Baloh, R.W. Barthel, W.F. Whitworth, R.H. Staehling, N.W. Rosenblum, B.F. 1975
729 Blood		ASV AAS	a) 192 b) 273	a) Not given b) Not given	a) 33.1 ug/100 ml b) 27.0 ug/100 ml	a) Children of leadworkers b) Controls Children (under 5 years old) of battery factory leadworkers. Control children's parents were not leadworkers. Mothers also tested. Battery factory near Manchester, England. LEAD; OCCUPATIONAL HAZARDS; BLOOD; INDUSTRIAL PLANTS; CHILDREN; BIOACCUMULATION; METALS; AGE; UNITED KINGDOM	Elwood, W.J. Clayton, B.E. Cox, R.A. Delves, H.T. King, E. Malcolm, D. Ratcliffe, J.M. Taylor, J.F. 1977

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Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1169 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
730 Blood		APDC-MIBK AAS		Not given	0.178 ppm	10 samples PLATINUM; PALLADIUM; LEAD; METALS; BLOOD; URINE; FECES; HAIR; MEASUREMENT METHODS; TRACE ELEMENTS	Tillery, J.B. Johnson, D.E. 1975
737 Blood		AAS	20	0.10-0.57 ug/g wet wt	0.29 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Lead
7439-92-1
Pb
At# 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
732 Blood		AAS	7	a) Not given b) 100-140 ug/100 ml c) 55-60 ug/100 ml	a) 260 ug/100 ml b) Not given c) Not given	a) Before treatment b) During chelation with EDTA c) During zinc sulfate administration b) and c) estimated from graph. A 37-year old man who had worked for 5 months in a lead battery factory and 25 years previously as a spray painter using lead-based paints. Vague pains in extremities, easily fatigued, generalized weakness, headache, loss of appetite. Mild neuropathy and myopathy LEAD; METALS; ZINC; CASE HISTORIES; OCCUPATIONAL HAZARDS; INDUSTRIAL PLANTS; PAINTS; LEVULINIC ACIDS; ENZYMES; BLOOD; BLOOD SERUM; URINE; HAIR	Thomasino, J.A. Zuroweste, E. Brooks, S.M. Petering, H.G. Lerner, S.I. Pinelli, V.M. 1977

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Lead
7439-92-1
Pb
At# 207.2, MP 327.4 C, BP 1736 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 973 C, 10 mm Hg at 1169 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
77% blood		AAS	Approx 150, 24 controls	a) < 60 ug/dl b) > or = 60 ug/dl c) > 80 ug/dl	a) Not given b) Not given c) Not given	a) Controls b) 77% of workers c) 29% of workers Male workers, half of which were less than 30 yr, equally distributed as white or black race, currently employed in 2 secondary lead smelters. Controls were 24 workers from nearby plants with no known lead exposure. Lead anemia, lead colic, gastrointestinal symptoms, central nervous system sympt oms, muscle and joint pains, hypertension, kidney disease. Incidence of non-colic abdominal pain higher in control group smelter workers. Cell hemoglobin concentration cocorelated with both blood-lead and ZPP(zinc protoporphyrin) levels. Results show that lead inhibits Hb synthesis but not red blood cell production. Industrial emissions ZINC; PROTOPORPHYRINS; LEAD; METALS; BIOINDICATORS; OCCUPATIONAL HAZARDS; SMELTERS; BLOOD	Eisinger, J. Blumberg, W.E. Fischbein, A. Lilis, R. Selikoff, I.J. 1978

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Lead
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Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
734 Blood			a) 546 b) 282 c) 74	a) < or = 29 ug/100 ml b) 30-39 ug/100 ml c) > 40 ug/100 ml	a) Not given b) Not given c) Not given	a) 39.3% with family of 4 or more children under 6 yr b) 42.9% with family of 4 or more children under 6 yr c) 17.9% with family of 4 or more children under 6 yr Strong association between Pb and socioeconomic factors interfering with supervision of small children Samples from children 1-6 years old living in lead-belt areas of New Haven, CT LEAD; METALS; CHILDREN; BLOOD; CONNECTICUT	Stark, A.D. Meigs, J.W. Fitch, R.F. Delouise, E.P. 1978
735 Blood			1,369	> or = 40 ug/100 ml	Not given	Levels in 53% of children 1-9 years old living within 1.6 km of the smelter and in 18% of those living from 1.6-6.6 km. Children in the first 1.6 km with these blood levels were exposed to 6447 ppm Pb in dust. Of all persons tested, 9% had similar values. Random sample of persons of all ages living near a lead-emitting smelter in El Paso, Texas. LEAD; METALS; SMELTERS; BLOOD; DUST; CHILDREN	Landrigan, P.J. Gehlbach, S.H. Rosenblum, B.F. Shoults, J.M. Candelaria, R.M. Barthel, W.F. Liddle, J.A. Smrek, A.L. Staehling, R.S. Sanders, J.F. 1975

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Lead
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Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
736 Blood	Inhalation Ingestion	AAS	a) 22 b) 15 c) 134	a) Not given b) Not given c) Not given	a) 19.9 ug/100 ml b) 32 ug/100 ml c) 28.7 ug/100 ml	a) Day Care children b) Controls (Non-Day Care children) c) Controls (Community children). Comparing ghetto children in Day Care Centers with ones not in centers. Age ranges: 12-35 months. Environmental pollution Pica BLOOD; LEAD; METALS; CHILDREN; URBAN AREAS	Adebonojo, F.O. Straus, S. 1974

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
737 Blood	Inhalation	AAS	a) 156 b) 24 Controls	a) <40- greater than 80 ug/100 ml b) <40-59 ug/100 ml	a) Not given b) Not given	a) Workers, secondary Pb-smelters: 2 had <40 ug/100 ml, 34 had 40-59 ug/100 ml, 75 had 60-79 ug/100 ml, 45 had >80 ug/100 ml, 93 had >80 ug/100 ml at some time, over half the 93 had repeated Pb >80 ug/100 ml, biochemical and clinical findings correlated with Pb levels b) Controls: 10 had 40-59 ug/100 ml, 14 had <40 ug/100 ml. Workers from 2 secondary smelting plants. Various age groups, Pb-exposure periods, both black and white races. Controls 2 plants in same area. Reduced radial nerve-conduction velocity was found in 86% of 134 Pb-exposed workers. Central nervous system symptoms, muscle and joint pain and/or soreness, and loss of appetite and weight were found in a relatively high proportion of the workers. High zinc propoporphyrin levels strongly correlated with Pb levels & duration of Pb-exposure. BLOOD; LEAD; SMELTERS; METALS; OCCUPATIONAL DISEASES; PROTOPORPHYRINS; ZINC; ERYTHROCYTES; LEAD POISONING; BLOOD; OCCUPATIONAL HAZARDS; METAL POISONING; NERVOUS SYSTEM DISEASES	Lilis, R. Fischbein, A. Diamond, S. Anderson, H.A. Selikoff, I.J. Blumberg, W.E. Eisinger, J. 1977

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Lead
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Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
738 Blood	Inhalation Ingestion		1149	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 57-75 ug/100 ml b) 40-55 ug/100 ml c) 31-36 ug/100 ml d) 24-35 ug/100 ml e) 17-25 ug/100 ml f) 20-37 ug/100 ml	a) 1 mile of Pb smelter b) 1-2.5 mile of Pb smelter c) 2.5-6 mile of Pb smelter d) 15-20 mile of Pb smelter e) Children living 45 miles from Pb smelter (Primary controls) f) Children living at old Pb mining site (Secondary controls) Means are geometric. More data in tables. 1149 children, aged 1-9 yr, living near a primary lead smelter in northern Idaho were surveyed in August 1974. Blood lead levels were correlated with analyses of environmental samples, social and medical history, and general observations of the home environment. Primary lead smelter LEAD; BLOOD; CHILDREN; LEAD POISONING; INDUSTRIAL EMISSIONS; INDUSTRIAL POLLUTION; SMELTERS; IDAHO; COMPARATIVE EVALUATIONS; DUST; METALS; AIR POLLUTION	Yankel, A.J. von Lindern, I.H. Walter, S.D. 1977
739 Blood	Ingestion Inhalation	APDC-MIBK AAS	379	9-102 ug/100 ml	40 ug/100 ml	Children in Newark, NJ, 1-8 yr, living in urban environment. CADMIUM; LEAD; ZINC; METALS; BLOOD; CHILDREN; PAINTS; POPULATION EXPOSURE; URBAN AREAS; NEW JERSEY	Rogden, J.D. Singh, N.P. Joselow, M.M. 1974

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Lead
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Pb
AtW 207.2, MP 327.8 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
740 Blood		Colorimetry	a) 80 b) 5 c) 29 d) 25	a) 12-41 ug/100 ml b) 26-39 ug/100 ml c) 12-41 ug/100 ml d) Not given	a) 22.8 ug/100 ml b) 31.4 ug/100 ml c) 20.8 ug/100 ml d) 24.04 ug/100 ml	a) Taxi drivers (whole group) b) Taxi drivers with lead plumbing at home c) Taxi drivers with copper plumbing at home d) Controls (factory workers) Male taxi drivers, 25-64 years of age, who were refuelling at a central Manchester depot. LEAD; METALS; OCCUPATIONAL HAZARDS; COPPER; LEVULINIC ACIDS; BLOOD; SMOKING; UNITED KINGDOM; AUTOMOTIVE	Flindt, M.L.H. King, E. Walsh, D.B. 1976
741 Blood		AAS	a) 20 b) 31	a) Not given b) Not given	a) 1.00 umol/l b) 0.93 umol/l	a) Alcoholics b) Delinquents and criminals 51 prisoners, 20 of whom were alcoholics (mean age = 52 years). Mean age of other 31 prisoners = 39 years BLOOD; LEAD; METALS; ALCOHOLIC BEVERAGES	Lob, M. Desbaumes, P. 1976
742 Blood		AAS	a) 78 b) 11 c) 24 d) 9	a) Not given b) Not given c) Not given d) Not given	a) 26.4 ug % b) 6.7 ug % c) 9.5 ug % d) 7.0 ug %	a) 1-2 wk between samples, macro blood lead of < 40 ug % b) 0 wk between samples, macro blood lead of < 40 ug % c) 1-2 wk between samples, macro blood lead of > or = 40 ug % d) 0 wk between samples, macro blood lead of > or = 40 ug % Values are for micro minus macro blood lead. Contamination problems in collection of micro samples. Delwes Method, micro-and Hessel Method for macroanalysis. LEAD; METALS; CHILDREN; MEASUREMENT METHODS; BLOOD; CONNECTICUT	Juselius, R.E. Lupovich, P. Moriarty, F. 1975

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Lead
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Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
743 Blood	Ingestion	AAS	16	a) > 40 ug % b) > 80 ug %	a) Not given b) Not given	a) level of all children at initiation of study b) Level of 50% of children 3 months before study, chelation therapy required Study indicates substantial exposure due to ingestion of dust and dirt rather than paint. Samples from children in Connecticut, average age 4 1/3 yr. Ingestion of lead-containing dirt LEAD; METALS; CHILDREN; PICA; DUST; PAINTS; POPULATION EXPOSURE; BLOOD; BIOACCUMULATION; CONNECTICUT	Lepow, M.L. Bruckman, L. Rubino, R.A. Markowitz, S. Gillette, M. Kapish, J. 1974
744 Blood		AAS	a) 57 b) 28 c) 24	a) Not given b) Not given c) Not given	a) 30.84 ug/100 ml b) 35.11 ug/100 ml c) 37.75 ug/100 ml	a) Toll booth at Tunnels entrance b) Allston location, on MA turnpike c) Weston location, Turnpike and Route 128 99 men worked at tunnel area as tollmen-guards, electricians or maintenance persons. Others worked as collectors at Allston and Weston booths, 6 1/2-7 hr/day. Automotive emissions HAIR; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; LEAD; METALS; BLOOD; SMOKING; CARBON INORGANIC COMPOUNDS; BIOACCUMULATION; AIR POLLUTION; AUTOMOTIVE; MASSACHUSETTS	Burgess, W.A. Diberardinis, L. Speizer, F.E. 1977

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Lead
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Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
745 Blood		Dithizone	a) 17 (c) b) 31 c) 18	a) <1.43 umol/l b) 1.98-3.88 umol/l c) > or = 3.42 umol/l	a) Not given b) Not given c) Not given	a) Glutathione reductase (GSSG-R) activity 0.98 units/ml, 5 aminolevulinic acid dehydratase (ALA-D) activity 28.47 units/ml, free sulfhydryl groups (SH) 1.49 umol/ml b) GSSG-R 1.48 units/ml, ALA-D 10.45 units/ml, SH 1.06 umol/ml c) GSSG-R 1.90 units/ml, ALA-D 4.63 units/ml, SH 0.93 umol/ml An unspecified number of subjects were workers from a lead battery factory LEAD; METALS; ENZYMES; BLOOD; ERYTHROCYTES; BIOACCUMULATION; UNITED KINGDOM; METABOLISM	Howard, J.K. 1978
746 Blood			80	7-66 ug%	24.3 ug%	No positive relationship between blood Pb and blood pressure was found. Samples from 80 New Hanover County, North Carolina Children, 1 to 8 yrs old, mean age 4.5 yrs, 29 black males, 38 black females., 8 white males, 5 white females LEAD; METALS; BLOOD; BLOOD PRESSURE; HYPERTENSION; NORTH CAROLINA; CHILDREN	Rogan, W.J. Hogan, M.D. Chi, P.Y. Cowan, D. 1978

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Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
747 Blood		AAS	a) 25 b) 50 c) 25 d) 50	a) Not given b) Not given c) Not given d) Not given	a) 16.2 ug/100 ml b) 15.3 ug/100 ml c) 13.8 ug/100 ml d) 13.1 ug/100 ml	a) Maternal blood, birth weights < 2500 g b) Controls, birth weights > 2500 g c) Cord blood, birth weights < 2500 g d) Controls, birth weights > 2500 g Differences not significant at P< 0.05 level. Women giving birth in Newark, N.J. Test and control groups matched for age (19.4 and 19.8 years), weights, smoking habits, ethnicity (84% black, 16% Hispanic) and socioeconomic status. METALS; COPPER; LEAD; IRON; MAGNESIUM; CALCIUM; BLOOD; INFANTS	Bogden, J.D. Thind, I.S. Louria, D.B. Caterini, H. 1978
748 Blood	Inhalation	AAS	a) 68 b) 42 c) 37(c)	a) Not given b) Not given c) Not given	a) 49.4 ug/100 ml b) 53.4 ug/100 ml c) 26.4 ug/100 ml	a) Exposure < 10 yr b) Exposure > 10 yr c) Controls. From secondary lead smelter workers (28% < 30 yr old, 52% 31-50 yr old and 31% > 50 yr old) and a control group (8% < 30 yr old, 62% 31-50 yr old and 30% > 50 yr old). Significant inverse correlation between hemoglobin and blood lead levels. Smelter METALS; LEAD; BLOOD; HEMOGLOBINS; ANEMIA	Lilis, R. Eisinger, J. Blumberg, W. Fischbein, A. Selikoff, I.J. 1978

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Lead
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Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
749 Blood	Inhalation Ingestion	AAS	a) 27 b) 32	a) 36-63 ug/100 ml b) 8-55 ug/100 ml	a) 31.8 ug/100 ml b) 21.72 ug/100 ml	a) Children of lead storage battery plant workers b) Control group levels significantly different (p< 0.001). Children (age 1-6 yr) Dust from parents' clothes METALS; LEAD; BLOOD; CHILDREN	Watson, W.N. Witherell, L.E. Giguere, G.C. 1978
750 Blood		AAS	a) 49 b) 49 c) 49 d) 24	a) Not given b) Not given c) Not given d) Not given	a) 32.3 ug/100 ml b) 37.9 ug/100 ml c) 49.9 ug/100 ml d) 11.9 ug/100 ml	a) Average level in workers at time of tests b) Time weighted average for the same group c) Average maximum concentration for the same group d) Controls Finnish workers (39 men and 10 women, mean age 33) at a storage battery plant or machine shop. The relationship between impaired psychological performance and blood lead concentration was significant. Visual intelligence and visual motor function were most affected. METALS; LEAD; BLOOD; OCCUPATIONAL HAZARDS	Haenninen, H. Hernberg, S. Mantere, P. Vesanto, E. Jalkanen, M. 1978

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Lead
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Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
751 Blood	Ingestion		1	a) Not applicable b) Not applicable	a) 90 ug % b) 70 ug %	a) Before therapy for poisoning b) After Ca-EDTA therapy A 59-year-old woman poisoned by the lead in an herbal medication. Insomnia, irritability, diffuse pains. Anemia, basophilic stippling, erythroid hyperplasia of bone marrow. LEAD; METALS; LEAD POISONING; CASE HISTORIES; BLOOD; ANEMIA	Kalman, S.M. 1977
752 Blood			6	24-52 mg/100 ml	Not given	Alkyl lead workers, levels taken weekly for 6 wk. No correlation between air and blood levels. LEAD; OCCUPATIONAL HAZARDS; METALS; OCCUPATIONAL DISEASES; LEAD POISONING; BLOOD; URINE; LEVULINIC ACIDS	Cope, R.F. Pancaso, B.P. Rinehart, W.E. TerHaar, G.L. 1979
753 Blood	Ingestion	AAS	192	7-43 ug/100 ml	16.1 ug/100 ml	Children, 1-12 yrs, 1977. No correlation with levels in drinking water. Children from Bennington, Vermont LEAD; METALS; LEAD POISONING; BLOOD; CHILDREN; VERMONT; DRINKING WATER	Morse, D.L. Watson, W.W. Housworth, J. Witherell, L.E. Landrigan, P.J. 1979
754 Blood						Review LEAD; METALS; BLOOD; TEETH; BONES; HAIR; URINE; MEASUREMENT METHODS; BIOACCUMULATION; METABOLISM; REVIEW	Baloh, R.W. 1974

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Pb
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(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
755 Blood						Review Decreased cognitive function, increase in behavioral abnormalities found in school-aged children with undue exposure to lead. Recommendations given for lead levels in paints to minimize exposure. LEAD; METALS; CHILDREN; BEHAVIOR DISORDERS; NEUROLOGIC MANIFESTATIONS; PAINTS; PICA; HEALTH HAZARDS; BLOOD; REVIEW	Chisholm, J.J. 1976
756 Blood						Review 'Normal' levels and exposure limits given. Author comment: About 1% of the work force is exposed to lead levels high enough to result in biochemical and, possibly, neurological damage. 25 days LEAD; METALS; INDUSTRIAL POLLUTION; OCCUPATIONAL HAZARDS; FOOD CONTAMINATION; POPULATION EXPOSURE; HEALTH HAZARDS; REVIEW; BLOOD; HAIR; URINE; TEETH; BONES	Grandjean, P. 1978

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Lead
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Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
757 Blood	Inhalation Ingestion	AAS	a) 40 b) 29 c) 45	a) 15.7-45.8 ug/100 ml b) 9.4-25.4 ug/100 ml c) 4.5-16.2 ug/100 ml	a) 26.8 ug/100 ml b) 13.6 ug/100 ml c) 9.1 ug/100 ml	a) <1 km from Pb smelter b) 2.5 km from Pb smelter c) Rural area (Controls) Children, aged 10-14 yr, living and going to school less than 1 km from a Pb smelter, 1.5-2.5 km from the Pb smelter, and in a rural area 8 km from the center of Leuven, Belgium. Study was conducted 18 mon after pollution control measures were implemented. Children seemed in good health. Pb and Cl emissions from Pb smelter LEAD; CADMIUM; METALS; SMELTERS; CHILDREN; BLOOD; URINE; ENZYMES; INDUSTRIAL EMISSIONS; AIR POLLUTION; COMPARATIVE EVALUATIONS; BELGIUM	Roels, H.A. Buchet, J.P. Lauwerys, R. Bruaux, P. Claeys-Thoreau, F. Lafontaine, A. van Overschelde, J. Verduyn, G. 1978
758 Blood		APDC-MIBK AAS	9	0.3-2.9 umol/l	1.7 umol/l	Lead workers Male volunteers, aged 21 to 63 yr. LEAD; METALS; COPROPORPHYRINS; URINE; BLOOD; BLOOD SERUM; PROTEINS	Araki, S 1978
759 Blood		AAS	a) 47 b) 36	a) Not given b) Not given	a) 1.23 umol/l b) 1.01 umol/l	a) Blood lead levels within 2 wk of birth, for mentally retarded children b) Blood lead levels within 2 wk of birth, for controls Blood from P.K.U. cards used as source. More data available. Samples from 77 Scottish children Only cases of mental retardation of unknown etiology were used LEAD; METALS; BLOOD; INFANTS; CHILDREN; RETARDATION; SCOTLAND	Moore, M.R. Meredith, P.A. Goldberg, A. 1977

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Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1030 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
760 Blood	Ingestion	MS	3	a) <0.03 ug/g b) 0.03-0.07 ug/g c) 0.005-0.04 ug/g d) <0.005 ug/g	a) Not given b) Not given c) Not given d) Not given	a) 0-25 days b) 25-125 days c) 125-200 days d) 200-360 days Times during and after exposure to 700 ug/day for 100 days. Healthy males aged 25-53 yr. METALS; LEAD; INTEGUMENT; HAIR; BLOOD	Rabinowitz, M. Wetherill, G. Kopple, J. 1976
761 Blood		AAS	a) 2 b) 30 c) 58 d) 35 e) 27	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) 59.4 ug/100 ml b) 65.4 ug/100 ml c) 73.8 ug/100 ml d) 78.1 ug/100 ml e) 98.6 ug/100 ml	a) Exposure <0.1 yr b) Exposure 0.3-0.9 yr c) Exposure 1.0-2.9 yr d) Exposure >10 yr e) Controls Secondary lead smelter workers Occupational exposures <1 yr produced symptoms of lead toxicity including CNS and GI abnormalities, muscle and joint pain, and lead colic. Elevated blood lead levels were accompanied by low hemoglobin and high zinc protoporphyrin values. Long term exposure resulted in kidney damage, hypertension and peripheral neuropathy. METALS; LEAD; INDUSTRIAL POLLUTION; SMELTERS; BLOOD	Lilis, R. Fischbein, A. Eisinger, J. Blumberg, W.E. Diamond, S.J. Anderson, H.A. Bom, W. Rice, C. Sarkozi, L. Kon, S. Selikoff, I.J. 1977

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Lead
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Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
762 Blood, fetal		AAS	253	a) Not given b) Not given c) Not given	a) 8.6 ug/100 g b) 14.2 ug/100g c) 17.5 ug/100 g	a) Term pregnancies b) Term pregnancies with premature membrane rupture c) Preterm delivery All subjects lived in lead-belt area. More data available. Incidence of premature delivery 13.04% in lead belt region as compared to 3% in control region. Air pollution from lead smelters LEAD; METALS; BLOOD SERUM; PREGNANCY; FETUS; ABORTION; MINING; MISSOURI; POPULATION EXPOSURE; UMBILICAL CORD; PLACENTA	Fahim, M.S. Fahim, Z. Hall, D.G. 1976
763 Blood, plasma		AAS	165	a) Not given b) Not given c) Not given	a) 3.10 ug/100 ml b) 3.0 ug/100 ml c) 3.10 ug/100 ml	a) Undue exposure b) Newborn c) Controls Values did not differ significantly from those of controls. Some patients with encephalopathy were included in groups of children with lead intoxication and sickle cell disease. CHILDREN; NEWBORN; LEAD; METALS; BLOOD; ERYTHROCYTES; BLOOD PLASMA; CALCIUM	Rosen, J.F. Trinidad, E.E. 1974

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Lead
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Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
764 Blood, plasma		AAS	a) 30 b) 34 c) 17 d) 12	a) 0.3-0.9 ug/100 ml b) 0.2-1.3 ug/100 ml c) 0.7-4 ug/100 ml d) 0.2-12.0 ug/100 ml	a) 0.54 ug/100 ml b) 0.61 ug/100 ml c) 1.69 ug/100 ml d) 4.42 ug/100 ml	a) 10-20 ug/100 ml b) 21-40 ug/100 ml c) 41-80 ug/100 ml d) >80 ug/100 ml Method sensitivity-0.2 ug/100 ml plasma 64 hospitalized subjects--no previous exposure 29 subjects with history of occupational exposure, some of which showed severe symptoms of intoxication LEAD; BLOOD; BLOOD PLASMA; OCCUPATIONAL HAZARDS; URINE; METALS; CALIFORNIA	Cavalleri, A. Minoia C. Pozzoli, L. Baruffini, A. 1978
765 Blood, whole		AAS	1690	2-225 ug/dl	35.2 ug/dl	Blacks had higher blood Pb than whites People from outstate areas showed higher mean Pb than those in urban or suburban areas. Contamination of samples during storage may explain elevated levels. No complete trace metal exposure data for stated areas of residence. Military recruits from Chicago, Illinois and adjacent areas in Illinois and Indiana inducted between June 29 and July 10, 1969 BLOOD; CADMIUM; COPPER; LEAD; ZINC; METALS; AGE; SMOKING; TOBACCOS; DIETS; ILLINOIS; INDIANA; RACIAL STUDIES	Creason, J.P. Hammer, D.I. Colucci, A.V. Priester, L. Davis, J. 1976

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
766 Blood, whole		APDC-MIBK AAS	320	4-86 ug/100 ml	36 ug/100 ml	No correlation between the Pb and Tl. Children between the ages of 1 and 5 years, predominantly black and Spanish-speaking residents of Newark, NJ. 320 blood samples collected over a 4-year period, (1971-1974). BLOOD; THALLIUM; LEAD; CHILDREN; BIOACCUMULATION; METALS; NEW JERSEY	Singh, N.P. Bogden, J.D. Joselow, M.M. 1975
767 Blood, whole	Ingestion Inhalation	AAS	1414, 258 controls	a) Not given b) Not given c) Not given d) Not given	a) 16.38 ug/100 ml b) 16.36 ug/100 ml c) 21.04 ug/100 ml d) 16.56 ug/100 ml	a) Lead smelter towns b) Copper smelter towns c) Zinc smelter towns d) Controls Samples from children living in 19 towns with primary non-ferrous smelters. Control group of same ages in three communities without smelters. Few children had blood lead levels high enough to be associated with hematologic or neurologic toxicity. Stack emissions ARSENIC; LEAD; CADMIUM; HAIR; URINE; BLOOD; ERYTHROCYTES; SMELTERS; COPPER; ZINC; CHILDREN; POPULATION EXPOSURE; METALS; AIR POLLUTION; WATER POLLUTION; NEW MEXICO; MISSOURI; ARIZONA; MONTANA; TENNESSEE; NEVADA; MICHIGAN; OKLAHOMA; TEXAS; PENNSYLVANIA	Baker, E.L., Jr. Hayes, C.G. Landrigan, P.J. Handke, J.L. Leger, R.T. Housworth, W.J. Harrington, J.M. 1977

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Lead
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Pb
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(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
768 Blood, whole	Inhalation	AAS	a) 15 b) 12 c) 7	a) Not given b) Not given 3) Not given	a) 70 ug/100 ml b) 68 ug/100 ml c) 76 ug/100 ml	a) Pain for > 3 mo b) Pain subsided in 3 mo c) No pain Duration of abdominal pain (lead colic) Workers in a secondary smelter who were treated for lead poisoning between June 1973 & December 1975. Mean employment time 4.7 yrs. (0.5-23 yrs). Blood Pb in workers should not exceed 50 ug/100 ml to minimize illness. LEAD; BLOOD; URINE; OCCUPATIONAL HAZARDS; METALS; CALIFORNIA	Dahlgren, J. 1978
769 Blood, whole	Ingestion	AAS	a) 211 b) 228 c) 124 d) 89	a) 14.6-19.0 ug/100 ml b) 11.5-14.8 ug/100 ml c) 14.2-19.6 ug/100 ml d) 14.1-16.9 ug/100 ml	a) 15.3 ug/100 ml b) 12.5 ug/100 ml c) 17.7 ug/100 ml d) 16.2 ug/100 ml	a) Adults-males b) Adults-females c) Children-males d) Children-females Lead solder in electric kettles LEAD; CANADA; CHILDREN; ADULTS; BLOOD; METALS	Wigle, D.T. Charlebois, E.J. 1978

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
770 Blood, whole		AAS	502	a) Not given b) Not given c) Not given	a) 18.3 ug/100 g b) 25.6 ug/100 g c) 29.1 ug/100 g	a) Maternal, term pregnancy b) Maternal term with premature membrane rupture c) Maternal, preterm All subjects live in lead belt area. Samples from 249 pregnant women in Region I with no lead mining activity and 253 in Region II 30-50 miles west of the new lead belt area. Patients were 20-25 years of age, had resided in their respective regions for at least 10 years and had incomes of $7000-10,000 a year. Increased incidence of early membrane rupture during pregnancy LEAD; METALS; BLOOD; FETUS; PREGNANCY; ABORTION; MINING; POPULATION EXPOSURE; MISSOURI; BLOOD SERUM; UMBILICAL CORD; PLACENTA	Fahim, M.S. Fahim, Z. Hall, D.G. 1976
771 Blood, whole		AAS	a) 40 b) 35 c) 49	a) 17-29 ug/dl b) 30-59 ug/dl c) 60-160 ug/dl	a) 23 ug/dl b) 48 ug/dl c) 84 ug/dl	a) Controls, Blood Pb 29 ug/dl or less b) Blood Pb 30-59 ug/dl c) Blood Pb 60 ug/dl or higher Samples from Black or Puerto Rican children in the Bronx. Ages ranged from 1 to 6 years. All were seen at Montefiore Hospital and Medical Center between 1971 and 1975. No metabolic bone disease observed. LEAD; METALS; CALCIUM; MINERAL METABOLISM; HYDROXYCHOLECALCIFEROLS; VITAMIN D; NUTRITIONAL DEFICIENCIES; CHILDREN; BLOOD; NEW YORK; BLOOD SERUM	Sorrell, M. Rosen, J.F. Roginsky, M. 1977

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AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
772 Blood, whole	Inhalation		a) 216 b) 106 c) 32 d) 13 e) 16 f) 49 g) 31 Controls h) 23 Controls	a) 2.0-125 ug/100 ml b) 11.0-125 ug/100 ml c) 5.0-78 ug/100 ml d) 2.0-89.0 ug/100 ml e) 8.1-97.5 ug/100 ml f) 13.0-92.5 ug/100 ml g) 11.5-86.0 ug/100 ml h) 2.5-32.0 ug/100 ml	a) 44.8 ug/100 ml b) 44.6 ug/100 ml c) 40.0 ug/100 ml d) 38.3 ug/100 ml e) 42.8 ug/100 ml f) 42.0 ug/100 ml g) 23.4 ug/100 ml h) 12.1 ug/100 ml	a) All autoworkers, 16-68 yr b) Mechanics, 17-68 yr c) Apprentice mechanics, 16-25 yr d) Smiths and welders, 22-63 yr e) Painters, 16-65 yr f) Miscellaneous workers, 16-64 yr g) Controls, male, 21-71 yr h) Controls, female, 21-73 yr Control data from previous study. Blood biochemical, and medical data compared. Samples from 216 individuals working in 70 garages (autoworkshops) on the island of Funen, Denmark. Abnormal hematological findings, high blood pressure in mechanics. Painters' symptoms related to the nervous system. Various other health findings were giddiness, headaches, tremor in hands, daily stomach pain, rash on hands and arms, rash on face, and rheumatic pain. Hypertension Automobile exhaust gas, paints, lead given off in process of welding, and lead-containing grease and gasoline. Lead in: triethyl lead, tetraethyl lead, lead naphthenate. LEAD; LEAD POISONING; OCCUPATIONAL DISEASES; INDUSTRIAL POLLUTION; DENMARK; LUBRICANTS; LEAD COMPOUNDS; COMPARATIVE EVALUATIONS; METALS; AUTOMOTIVE; BLOOD	Clausen, J. Bastoji, S.C. 1977a

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Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
771 Blood, whole		AAS	a) 37 b) 48	a) Not given b) Not given	a) 1.3 umole/l b) 4.2 umole/l	a) Controls b) Exposed subjects At Pb concentrations of 2 or more umole/l and erythrocyte ALA.D activity of less than 18 nmole ALA utilised/min/ml RBC, heme synthesis is depressed, thus inducing ALA.S activity. 48 male lead poisoned subjects, 22-56 yr. 37 controls (28 male, 9 female), 18-52 yr. LEAD; METALS; METABOLISM; OCCUPATIONAL HAZARDS; ENZYMES; BLOOD; URINE; ERYTHROCYTES; LEUKOCYTES; HEMES	Meredith, P.A. Moore, M.R. Campbell, B.C. Thompson, G.E. Goldberg, A. 1978
774 Blood, whole		AAS	a) 1 b) 1 c) 1 d) 1	a) 43-57 ug/dl b) 47-50 ug/dl c) 47-60 ug/dl d) 19-70 ug/dl	a) Not given b) Not given c) Not given d) Not given	a) Mother, pre-natal exposure (5 months) b) Mother, after exposure (2 months), before birth of child c) Mother, during lactation (8 months) d) Child, values decreased rapidly to 28 ug/dl during first 2 months from initial high value, then decreased slowly during next 6 months to 19 ug/dl Values estimated from graph. Time given in months from birth. Samples from mother who had been employed by a manufacturer of electrical storage batteries until seven weeks before delivery. Healthy baby was breast-fed 8 1/2 mo LEAD; METALS; OCCUPATIONAL HAZARDS; BLOOD; INFANTS; ADULTS; CASE HISTORIES	Wyn, J.E. Ziegler, E.E. Fomon, S.J. 1978

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
775 Blood, whole		MS	a) 5 b) 5 c) 1	a) 7.2-11.4 ug/100g b) 16.4-21.7 ug/100g c) Not applicable	a) Not given b) Not given c) 7.6 ug/100g	a) Females b) Males c) Umbilical cord Subjects reside in Dallas, Texas. Two South African subjects had blood lead isotopically distinct from native-born subjects. Some had high to moderate exposures to airborne lead. BLOOD; LEAD; OCCUPATIONAL HAZARDS; TEETH; AIR POLLUTION; METALS; BIOACCUMULATION; DIETS; UMBILICAL CORD	Manton, W.I. 1977
776 Blood, whole	Ingestion		1	Not applicable	99 ug/dl	Lead level after taking pills containing 0.5 mg lead per pill (30 pills per day). Samples from 59 yr old woman admitted to Stanford University Hospital. Anemia, diffuse pain, abdominal pain, depression, irritability LEAD; METAL POISONING; METALS; CASE HISTORIES; LEAD POISONING; BLOOD; URINE; CALIFORNIA	Lightfoote, J. Blair, J. Cohen, J.B. 1977

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Pb
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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
777 Blood, whole		AAS	a) 3861 b) 1562 c) 263	a) <40 ug/100ml b) 40-59 ug/100ml c) >or=60 ug/100ml	a) Not given b) Not given c) Not given	a) 58.4%, 72.4%, 42.6% of children living >200 ft, 100-200 ft, <100 ft, respectively, from major roadway b) 26.9%, 24.2%, 40.3% of children living >200 ft, 100-200 ft, <100 ft, respectively, from major roadway c) 4.7%, 3.4%, 7% of children living >200 ft, 100-200 ft, <100 ft, respectively, from major roadway. Children, residents of Newark. Measurements made at the College of Medicine and Dentistry of New Jersey during 1971. LEAD; METALS; BLOOD; LEAD POISONING; URBAN AREAS; NEW JERSEY; CHILDREN; AUTOMOTIVE; AIR POLLUTION	Caprio, R.J. Margulis, H.L. Joselow, M.M. 1974
778 Blood, whole			31	0.45-1.65 umol/l	0.85 umol/l	Residents near a zinc mine. Residents of Shipham, Somerset, where Cd was high. 14 females, aged 28 to 83 yr, 17 males, aged 15 to 79 yr. CADMIUM; ZINC; LEAD; METALS; MINING; BLOOD; UNITED KINGDOM; METAL POISONING; FOOD CONTAMINATION	Carruthers, M. Smith, R. 1979

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Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1169 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
779 Blood, whole			a) 19 b) 20 c) 15 d) 45	a) Not given b) Not given c) Not given d) Not given	a) 58.8 ug/dl b) 51.2 ug/dl c) 45.9 ug/dl d) 21.4 ug/dl	a) Pb encephalopathy b) Long-term Pb exposure c) Short-term Pb exposure d) No Pb exposure Data from psychologic and neurologic examinations also available. Children with lead encephalopathy had worse scores in all categories. Children, 4 to 8 yr, 45 with high lead levels and 45 controls that were matched for sex, race, and age. Controls attended neighborhood health clinics in Providence, Rhode Island Symptoms of lead encephalopathy include irritibility, drowsiness, convulsions. LEAD; LEAD POISONING; METALS; CHILDREN; BLOOD; BIOACCUMULATION; RHODE ISLAND	Fusso, J.E. South, D.K. Fusso, E.J. Brown, J.F. 1979

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Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1009 C, 1 mm Hg at 970 C, 10 mm Hg at 1169 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
780 Blood, whole		AAS	a) 22 b) 48 c) 72 d) 32 e) 70 f) 240 g) 260 h) 740	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 28.0 ug/100 ml b) 33.5 ug/100 ml c) 45.8 ug/100 ml d) 49.9 ug/100 ml e) 52.7 ug/100 ml f) 64.0 ug/100 ml g) 77.7 ug/100 ml h) 55.6 ug/100 ml	a) Female clerical workers, red blood cell (RBC) delta-aminolevulinic acid dehydrase (ALAD) activity = 22.3 milliunits/ml RBC b) Male clerical workers and traffic policemen, ALAD activity = 17.3 milliunits/ ml RBC c) Motorway tollgate attendants, ALAD activity = 11.5 milliunits/ml RBC d) Chronic alcoholics, ALAD activity = 8.58 milliunits/ml RBC e) Recent occupational exposure, ALAD activity = 8.7 milliunits/ml RBC f) Subclinical intoxication cases, ALAD activity = 7.6 milliunits/ml RBC h) Previous intoxication, ALAD activity = 7.3 milliunits/ml RBC. Other data available. 174 subjects in Milan, aged 25-45 yr, and 710 occupationally exposed workers. LEAD; METALS; BLOOD; LEAD POISONING; OCCUPATIONAL HAZARDS; ITALY; ENZYMES	Secchi, G.C. Alessio, L. 1974

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(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
789 Blood, whole		AAS	a) 125 b) 45	a) 16.6-51.8 ug/100 g b) 13.3-14.7 ug/100 g	a) 32.1 ug/100 g b) 13.9 ug/100 g	a) Exposed to lo. Pb. Range is of means for various departments. delta-Aminolevulinic acid dehydrase range: 37.3-95.1 units/ml red blood cells, mean, 64.8 units/ml RBC b) Controls in same plant, range of means for 3 departments. ALAD range: 101.4-111.0 units/RBC, mean, 108.2 units/RBC ALA, hemoglobin, hematocrit, RBC, and subjective symptoms also available. No statistical variation. Workers in a rubber hose and automobile tire factory. Mean age 30.5 yr, controls, 27.4 yr. Mean exposure for 5.0 yr. LEAD; METALS; LEAD POISONING; BLOOD; OCCUPATIONAL HAZARDS; ENZYMES; JAPAN	Sakurai, H. Sagita, M. Tsuchiya, K. 1974

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(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
782 Blood, whole			a) 16 b) 8 c) 6 d) 3 e) 5 f) 8*	a) Not given b) Not given c) Not given d) Not given e) Not given f) 8-44 ug/100 ml	a) 81 ug/100 ml b) 63 ug/100 ml c) 72 ug/100 ml d) 86 ug/100 ml e) 36 ug/100 ml	a) Foremen, furnace workers, truck unloaders at a Pb smelter, mean free erythrocyte protoporphyrin concentration (FEP)=423 ug/100 ml b) Maintenance workers and those with several jobs, mean FEP=262 ug/100 ml c) Workers involved with forklift operation and battery wrecking, mean FEP=346 ug/100 ml/ d) Casters, mean FEP=468 ug/100 ml e) Office or lab workers, mean FEP=96 ug/100 ml f) Household contacts of the employees, FEP range=10-94 ug/100 ml. Pb smelter near St. Paul, Minnesota. Median ages: plant workers, 32 yr, lab workers, 56 yr. Fatigue, cough, diarrhea, irritability, anorexia, hand tremors - symptoms of Pb poisoning. LEAD; METALS; LEAD POISONING; BLOOD; PROTOPORPHYRINS; OCCUPATIONAL HAZARDS; MINNESOTA	Winegar, D.A. Levy, B.S. Andrews, J.S. Landrigan, P.J. Scruton, W.H. Krause, M.J. 1977
783 Blood, whole			5	0.012-0.015 mg/100 g	0.014 mg/100 g	Multiple sclerosis patients 5 patients, aged 25-56 yr, 1 black, 4 whites, Duration of disease: 2 mo to 10 yr. LEAD; URINE; BLOOD; BONES; CENTRAL NERVOUS SYSTEM DISEASES	Westerman, M.P. Bruetman, M. Pfitzer, E. 1974

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(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
784 Blood, whole		AAS	a) 54 b) 8 c) 9 d) 8 e) 17	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 26.33 ug/100 ml b) 41.06 ug/100 ml c) 22.89 ug/100 ml d) 29.94 ug/100 ml e) 22.16 ug/100 ml	a) Hyperactive children with no known cause for condition b) Hyperactive children with history of lead poisoning c) Hyperactive children with highly probable cause for condition d) Hyperactive children with possible cause for condition e) Controls Outpatients in 1 of 3 clinics in Kings County Hospital - Downstate Medical Center complex in Brooklyn, NY, aged 3.5-12 yr. LEAD; METALS; BLOOD; URINE; CHILDREN; LEAD POISONING; BEHAVIOR DISORDERS	David, O.J. 1974
785 Blood, whole			30	34-75 ug/100 ml	47.5 ug/100 ml	Children evaluated for Pb absorption Samples from 30 children, aged 1-5 yr, at Children's Hospital of Philadelphia. Correlation between free erythroporphyrin levels and age corrected tooth Pb. LEAD; BLOOD; TEETH; PENNSYLVANIA; METALS; MEASUREMENT METHODS; CHILDREN; POPULATION EXPOSURE	Shapiro, I.M. Burke, A. Mitchell, G. Bloch, P. 1978
786 Body	Ingestion	Radiometry	10	a) 12.87-98.53 % b) 10.10-67.00 %	a) Not given b) Not given	a) Percentage of whole body retention at 48 hr. b) Percentage of whole body retention at 96 hr. Calculated from whole body scans after a 10 uCi dose of Pb-203 chloride. Samples from healthy individuals aged 25-35 yr. METALS; LEAD; GASTROINTESTINAL SYSTEM	Blake, K.C.H. 1976

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
787 Bone			68, 6 Controls	a) 0.4-24.2 ug/g wet wt b) 0.2-13.2 ug/g wet wt c) 0.2-0.6 ug/g wet wt.	a) 5.7 ug/g wet wt b) 2.9 ug/g wet wt c) Not given	a) Rib (stillbirth) b) Vertebra (stillbirth) c) Control Sample of rib and/or vertebra obtained from children stillborn in Birmingham hospitals. Necropsy samples from 6 infants who died aged 6-10 mos. LEAD; CADMIUM; INFANTS; BONES; VERTEBRAE; METALS; RIBS; UNITED KINGDOM	Bryce-Smith, D. Deshpande, N.R. Hughes, J. Waldron, H.A. 1977
788 Bone			129	a) 189.7-1668.0 mg b) 21.8-342.0 mg c) 12.1-237.4 mg d) 0.2-25.4 mg	a) 550.8 mg b) 155.5 mg c) 97.4 mg d) 8.9 mg	a) Male adults, occupational exposure b) Male adults, non-exposed c) Female adults d) Children Extensive data for numerous tissues, organs, urine and feces. 35 organs and tissues from 129 cadavers in Cheshire, Great Britain between 1966 and 1973. Sixty male adults, 36 female adults, 23 male and female children 16 yr and younger, 7 occupationally exposed, and 3 cases presumed to have had unusual past exposure to lead. LEAD; BONES; AGE; ADULTS; CHILDREN; INFANTS; HAIR; BLOOD; AUTOPSIES; METALS; UNITED KINGDOM	Barry, P.S.I. 1975

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(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
789 Bone		AAS	12	0.13-0.82 ug/g wet wt	0.35 ug/g wet wt	Rib samples Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
790 Bone		AAS	a) 1 b) 1	a) Not applicable b) Not applicable	a) 70 ppm b) 30 ppm	a) Occupationally exposed b) Control Values for femur. PIXE microprobe technique has potential for recording history of exposure. 2 autopsy cases, a patient occupationally exposed (lead refinery) with clinical symptoms of intoxication. The other was a control. LEAD; METALS; FEMUR; BONES; OCCUPATIONAL HAZARDS; AUTOPSIES; SWEDEN	Lindh, U. Brune, D. Nordberg, G. 1978

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Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1090 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
791 Bone	Ingestion	AAS	a) 92 b) 60	a) Not given b) Not given	a) 4.88 ug/g b) 5.28 ug/g	a) Males b) Females Biological half-times (BHT) obtained by observation of accumulation from 0-90 years and calculation by a mathematical model. Autopsy samples from Tokyo accident victims with no known occupational exposure. 32 years CADMIUM; MERCURY; LEAD; METALS; AUTOPSIES; BIOACCUMULATION; AGE; SEX; FOODS; JAPAN	Sugita, M. 1978
792 Bone						Review LEAD; METALS; BLOOD; TEETH; BONES; HAIR; URINE; MEASUREMENT METHODS; BIOACCUMULATION; METABOLISM; REVIEW	Baloh, R.W. 1978
793 Bone						Review Author comment: About 1% of the work force is exposed to lead levels high enough to result in biochemical and, possibly, neurological damage. LEAD; METALS; INDUSTRIAL POLLUTION; OCCUPATIONAL HAZARDS; FOOD CONTAMINATION; POPULATION EXPOSURE; HEALTH HAZARDS; REVIEW; BLOOD; HAIR; URINE; TEETH; BONES	Grandjean, P. 1978

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Lead
7439-92-1
Pb
At# 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
794 Bone			5	<0.20-1.79 mg/100 g	Not applicable	Patients with multiple sclerosis 5 patients, aged 25-56 yr, 1 black, 4 whites. Duration of disease: 2 mo to 10 yr. LEAD; URINE; BLOOD; BONES; CENTRAL NERVOUS SYSTEM DISEASES	Westerman, M.P. Bruetman, M. Pfitzer, E. 1974
795 Brain		AAS	a) 15 b) 15	a) 0.11-0.62 ug/g wet wt b) 0.08-0.63 ug/g wet wt	a) 0.26 ug/g wet wt b) 0.27 ug/g wet wt	a) Cerebrum b) Cerebellum Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
796 Brain		AAS	4	0.22-0.71 ug/g dry wt	Not given	Distribution of Pb and K were similar. Pb accumulated primarily in cell-rich areas. Areas: half brain, hippocampus, amygdata, cerebellum, medulla oblongata, corpus callosum, optic tract. Ages at death: 36, 42, 43, 43 causes of death were acute infection, 2 cases of drug poisoning, suffocation. No apparent occupational exposure. BRAIN; LEAD; POTASSIUM; CEREBELLUM; METALS	Grandjean, P. 1978

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Lead
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Pb
At# 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
797 Hair	Inhalation Ingestion		73	a) 14-166 ug/g b) 3-39 ug/g	a) 52 ug/g b) 17 ug/g	a) Smelter area b) Urban control area Method of analysis not given. Survey between April and November, 1973 of 16 families living less than 150 meters from Smelter A and of 8 urban control families. Non-specific neurological abnormalities reduction in peripheral nerve velocity Increased excretion of ALA and coproporphyrins. Increased density in bone metaphyses. LEAD; CHILDREN; ADULTS; DUST; METABOLISM; BLOOD; HAIR; SMELTERS; COPROPORPHYRINS; METALS	Roberts, T.M. Hutchinson, T.C. Paciga, J. Chattopadhyay, A. Jervis, R.E. Van Loon, J. Parkinson, D.K. 1974
798 Hair		AAS	18	18.0-701.6 ppm	217 ppm	Determinations were also done on soil and interior paint, possible sources of contamination. 18 preadolescent Negro children in a Charleston, SC dental clinic. BLOOD; HAIR; TEETH; CHILDREN; LEAD; SOILS; PAINTS; METALS; SOUTH CAROLINA	Habercam, J.W. Neil, J.E. Reigart, J.R. Croft, H.W. 1974

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Lead
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Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
799 Hair	Ingestion Inhalation	AAS	1292, 160 controls	a) Not given b) Not given c) Not given d) Not given	a) 77.29 ug/g b) 22.03 ug/g c) 41.75 ug/g d) 12.95 ug/g	a) Lead smelter towns b) Copper smelter towns c) Zinc smelter towns d) Controls Samples from children living in 19 towns with primary non-ferrous smelters. Control group of same ages in three communities without smelters. Few children had blood lead levels high enough to be associated with hematologic or neurologic toxicity. Stack emissions ARSENIC; LEAD; CADMIUM; HAIR; URINE; BLOOD; ERYTHROCYTES; SMELTERS; COPPER; ZINC; CHILDREN; POPULATION EXPOSURE; METALS; AIR POLLUTION; WATER POLLUTION; NEW MEXICO; MISSOURI; ARIZONA; MONTANA; TENNESSEE; NEVADA; MICHIGAN; OKLAHOMA; TEXAS; PENNSYLVANIA	Baker, E.L., Jr. Hayes, C.G. Landrigan, P.J. Handke, J.L. Leger, P.T. Housworth, W.J. Harrington, J.M. 1977
899 Hair		AAS	10	2-141 ug/g	Not given	Average of 89% Pb extracted with 1% nitric acid. Specimens from donors aged 12 to 60 yr and from various geographic exposure areas. SODIUM; MAGNESIUM; POTASSIUM; CALCIUM; MANGANESE; ZINC; NICKEL; COPPER; IRON; CADMIUM; LEAD; HAIR; NUTRITIONAL DEFICIENCIES; BIOACCUMULATION; MINERAL METABOLISM; METALS; TRACE ELEMENTS	Hinners, T.A. Terrill, W.J. Kent, J.L. Colucci, A.V. 1974

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Lead
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Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
801 Hair		AAS	216	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 23.5 ug/g b) 13.1 ug/g c) 17.6 ug/g d) 29.7 ug/g e) 7.8 ug/g f) 6.9 ug/g	a) Policemen on foot patrol b) Office workers in downtown Houston (control for (a)) c) Garage attendants d) Orderlies and custodians (control for (b)) e) Females living within 2 blocks of freeway f) Females living away from freeway (control for (e)) Six groups, each of 26 individuals, in the metropolitan area of Houston, TX, policemen on foot patrol, office workers in downtown Houston, garage attendants, orderlies and custodians, females living within two blocks of a freeway, and females living away from a freeway. CADMIUM; LEAD; TRACE ELEMENTS; TEXAS; BLOOD; URINE; HAIR; FECES; ZINC; MANGANESE; COPPER; PLATINUM; PALLADIUM; METALS; AUTOMOTIVE; OCCUPATIONAL HAZARDS	Johnson, D.E. Tillery, J.B. Prevost, R.J. 1975
802 Hair		AAS	6, 10 Controls	a) Not given b) Not given	a) 93 ppm b) 6 ppm	a) Families adjacent to smelter b) Control Employees at a lead scrap smelter in Troy, Alabama. Six members of two families who resided 50 and 100 meters respectively from the smelter. Ten adult volunteers who resided 1.6-11.3 kilometers from the smelter. LEAD POISONING; SMELTERS; BLOOD; HAIR; ERYTHROCYTES; PORPHYRINS; METABOLISM; DISEASES; SOILS; VEGETATION; LEAD; MILK; METALS; ANIMAL POPULATIONS; OCCUPATIONAL HAZARDS; ALABAMA	Levine, R.J. Moore, R.M., Jr. McLaren, G.D. Barthel, W.F. Landrigan, P.J. 1976

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Lead
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Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
80) Hair		AAS	a) 124 b) 42 c) 78 d) 68 e) 30 f) 30 g) 134 h) 100	a) 1-127 ug/g b) 2-228 ug/g c) 1-65 ug/g d) 1-127 ug/g e) 1-129 ug/g f) 1-297 ug/g g) 1-218 ug/g h) 4-293 ug/g	a) 23 ug/g b) 37 ug/g c) 19 ug/g d) 36 ug/g e) 30 ug/g f) 81 ug/g g) 40 ug/g h) 62 ug/g	a) Proximal segment - Boston b) Distal segment - Boston c) Proximal segment - Tokyo d) Distal segment - Tokyo e) Proximal segment - Meza Valley, Yugoslavia f) Distal segment - Meza Valley, Yugoslavia g) Proximal segment - Providence, RI - children h) Distal segment - Providence, RI - children Relatively low concentrations of lead in hair of residents of Belgrade and Iran. 78 hair species obtained from Tokyo children and young adults. Two groups of children from Capetown, S. Africa (one group with malnutrition or rickets, the other, controls). 35 hair samples from a remote rural area of Iran. Hair from 2 populations from Yugoslavia (one from near a Pb smelter). From the U.S., 134 children from Providence, RI, 100 hair specimens from children at the Children's Hospital Medical Center in Boston, and adult hair from Boston residents. LEAD; HAIR; AGE; URBAN AREAS; RURAL AREAS; BIOACCUMULATION; JAPAN; YUGOSLAVIA; IRAN; CHILDREN; SMELTERS; METALS; MASSACHUSETTS; RHODE ISLAND	Kopito, L.E. Shwachman, H. 1975
30a Hair		AAS		Not given	26.21 ppm	Composite samples. Deviations >7% from improper washing. PLATINUM; PALLADIUM; LEAD; METALS; BLOOD; URINE; FECES; HAIR; MEASUREMENT METHODS; TRACE ELEMENTS	Tillery, J.B. Johnson, D.E. 1975

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
805 Hair		AAS	1	Not applicable	3006 ppm	Lead-intoxicated patient A 37-year old man who had worked for 5 months in a lead battery factory and 25 years previously as a spray painter using lead-based paints. Vague pains in extremities, easily fatigued, generalized weakness, headache, loss of appetite. Mild neuropathy and myopathy LEAD; METALS; ZINC; CASE HISTORIES; OCCUPATIONAL HAZARDS; INDUSTRIAL PLANTS; PAINTS; LEVULINIC ACIDS; ENZYMES; BLOOD; BLOOD SERUM; URINE; HAIR	Thomasino, J.A. Turowaste, Z. Brooks, S.M. Petering, H.G. Lerner, S.I. Pinelli, V.M. 1977
806 Hair		AAS	a) 50 b) 51 c) 38	a) Not given b) Not given c) Not given	a) 31.5 ug/g b) 16.6 ug/g c) 13.9 ug/g	a) Maternal scalp hair b) Maternal pubic hair c) Neonatal scalp hair Mean Pb higher in blacks than in whites. Hair samples from patients at Cincinnati General Hospital, 68% black, 32% white. Mean age was 22.5 yr. Mean parity of the group was 2.6. HAIR; TRACE ELEMENTS; NEWBORN; METALS; ZINC; COPPER; IRON; LEAD; PLACENTA	Baumslag, N. Yeager, D. Levin, L. Petering, H.G. 1974

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Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 7 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE DOSE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
807 Hair		AAS	a) 91 b) 40 c) 42	a) Not given b) Not given c) Not given	a) 11.95 ug/g b) 18.50 ug/g c) 24.56 ug/g	a) Toll booth at Tunnel's entrance b) Allston location, on MA turnpike c) Weston location, Turnpike and Route 128 99 men worked at tunnel area as tollmen-guards, electricians or maintenance persons. Others worked as collectors at Allston and Weston booths, 6 1/2-7 hr/day. Automotive emissions HAIR; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; LEAD; METALS; BLOOD; SMOKING; CARBON INORGANIC COMPOUNDS; BIOACCUMULATION; AIR POLLUTION; AUTOMOTIVE; MASSACHUSETTS	Burgess, W.A. Diberardinis, L. Speizer, F.E. 1977
808 Hair						Review LEAD; METALS; BLOOD; TEETH; BONES; HAIR; URINE; MEASUREMENT METHODS; BIOACCUMULATION; METABOLISM; REVIEW	Baloh, R.W. 1974
809 Hair						Review 'Normal' levels and exposure limits given. Author comment: About 1% of the work force is exposed to lead levels high enough to result in biochemical and, possibly, neurological damage. LEAD; METALS; INDUSTRIAL POLLUTION; OCCUPATIONAL HAZARDS; FOOD CONTAMINATION; POPULATION EXPOSURE; HEALTH HAZARDS; REVIEW; BLOOD; HAIR; URINE; TEETH; BONES	Grandjean, P. 1978

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Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
810 Hair		AAS	a) 21 b) 20	a) 0.4-12.2 ppm b) 2.04-22.8 ppm	a) 3.1 ppm b) 5.5 ppm	a) Rural Irish children, close to zinc and copper mine b) Urban Irish children, controls 21 children (10 male, 9 female, aged 5-12 yr) whose school was close to an open-cast mine in county Tipperary, and 20 Cork City children (18 male, 2 female, same age group). ZINC; MERCURY; ARSENIC; LEAD; COPPER; METALS; CHILDREN; HAIR; UNITED KINGDOM; INDUSTRIAL POLLUTION	Corridan, J.P. 1974
811 Hair	Ingestion	MS	3	a) <0.2 ug/g b) 0.6-1.1 ug/g c) 0.02-0.5 ug/g	a) Not given b) Not given c) Not given	a) 0.50 day b) 100-150 day c) 175-360 day Times during and after a 100 days exposure to 100 ug/day Healthy males aged 25-53 yr. METALS; LEAD; INTEGUMENT; HAIR; BLOOD	Rabinowitz, M. Wetherill, G. Kopple, J. 1976
812 Heart		AAS	29	0.065-0.98 ug/g wet wt	0.32 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Fitamura, S. 1975

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Lead
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Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
813 Heart	Ingestion	AAS	a) 71 b) 61	a) Not given b) Not given	a) 0.110 ug/g b) 0.102 ug/g	a) Males b) Females Biological half-times (BHT) obtained by observation of accumulation from 6-90 years and calculation by a mathematical model. Autopsy samples from Tokyo accident victims with no known occupational exposure. 8.8 years CADMIUM; MERCURY; LEAD; METALS; AUTOPSIES; BIOACCUMULATION; AGE; SEX; FOODS; JAPAN	Sugita, M. 1978
814 Intestine		AAS	a) 23 b) 28	a) 0.16-1.3 ug/g wet wt b) 0.20-2.5 ug/g wet wt	a) 0.55 ug/g wet wt a) 0.84 ug/g wet wt	a) Small intestine b) Large intestine Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Pb
Atw 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
815 Kidney		APDC-MIBK AAS	21	0.40-3.8 ug/g, wet wt	1.8 ug/g, wet wt	The association between age and Pb content of organs is shown. Liver, kidney, lung and pancreas samples from Baltimore City residents over 17 years of age who had died suddenly and who had no disease condition at time of death. LIVER; KIDNEYS; PANCREAS; LUNGS; URBAN AREAS; BIOACCUMULATION; CARDIOVASCULAR DISEASES; METALS; MARYLAND	Poklis, A. Freimuth, H.C. 1976
816 Kidney		AAS	28	0.16-1.2 ug/g wet wt	0.47 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Lead
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Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
917 Kidney	Ingestion	AAS	a) 84 b) 55	a) Not given b) Not given	a) 0.384 ug/g b) 0.368 ug/g	a) Males b) Females Biological half-times (BHT) obtained by observation of accumulation from 0-90 years and calculation by a mathematical model. Autopsy samples from Tokyo accident victims with no known occupational exposure. 5.9 years CADMIUM; MERCURY; LEAD; METALS; AUTOPSIES; BIOACCUMULATION; AGE; SEX; FOODS; JAPAN	Sugita, M. 1978
918 Liver		APDC-MIBK AAS	22	1.0-6.3 ug/g, wet wt	2.5 ug/g, wet wt	The association between age and Pb content of organs is shown. Liver, kidney, lung and pancreas samples from Baltimore City residents over 17 years of age who had died suddenly and who had no disease condition at time of death. LIVER; KIDNEYS; PANCREAS; LUNGS; URBAN AREAS; BIOACCUMULATION; CARDIOVASCULAR DISEASES; METALS; MARYLAND	Poklis, A. Freimuth, H.C. 1976

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Lead
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Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
819 Liver		AAS	30	0.16-1.0 ug/g wet wt	0.46 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
820 Liver		AAS	a) 3 b) 8 c) 3 d) 36 e) 15	a) 0.30-0.77 ug/g wet wt b) 0.33-2.62 ug/g wet wt c) 0.82-1.59 ug/g wet wt d) 0.58-6.47 ug/g wet wt e) 0.29-1.97 ug/g wet wt	a) 0.56 ug/g wet wt b) 1.15 ug/g wet wt c) 1.31 ug/g wet wt d) 2.09 ug/g wet wt e) 0.74 ug/g wet wt	a) Stillborn, male b) Males, 2-12 yr c) Females, 2-12 yr d) Males, 19-45 yr e) Females, 19-45 yr Liver Pb peaked at the end of the 4th decade in adult males. No regional differences. 118 autopsies of accident victims and 4 autopsies of stillborns, in Fredericton, Hamilton, Ottawa, Saskatoon, Sudbury, Victoria and Windsor during 1969-1971. LEAD; METALS; LIVER; CANADA; AUTOPSIES; INFANTS; BIOACCUMULATION	Shah, B.G. Belonje, B. 1978

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Pb
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(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
822 Liver	Ingestion	AAS	a) 81 b) 51	a) Not given b) Not given	a) 0.604 ug/g b) 0.410 ug/g	a) Males b) Females Biological half-times (BHT) obtained by observation of accumulation from 0-90 years and calculation by a mathematical model. Autopsy samples from Tokyo accident victims with no known occupational exposure. 4.1 years CADMIUM; MERCURY; LEAD; METALS; AUTOPSIES; BIOACCUMULATION; AGE; SEX; FOODS; JAPAN	Sugita, M. 1978
822 Liver		ES	10	Not given	276 ug/g	Arithmetic mean Geometric mean=228 ug/g Concentrations based on ash weight Samples from ten healthy adult males who were accident victims. METALS; SILVER; ALUMINUM; BARIUM; CADMIUM; COBALT; CHROMIUM; COPPER; IRON; MANGANESE; MOLYBDENUM; NICKEL; LEAD; TIN; STRONTIUM; TITANIUM; ZINC; LIVER	Perry, H.M., Jr. Perry, E.F. Hixon, R.B. 1977

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Lead
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Pb
At# 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
823 Lung	Inhalation	AAS	66	0.10-3.04 ppm	0.87 ppm	Significant variations in concentration by sex, occupation and age. Pb accumulates at the rate of 0.0067 ug/yr/g of freeze-dried lung tissue up to 9th decade. Samples furnished by two hospitals in Houston between 1972 and 1973. Subjects were divided into 3 classes, based on probable exposure to lead. Longshoremen, chemists, and refinery workers were placed in the highest risk category. Emissions from industries located along Houston Ship Channel and automotive emissions. LUNGS; LEAD; AIR POLLUTION; FUEL ADDITIVES; RURAL AREAS; URBAN AREAS; OCCUPATIONAL HAZARDS; METALS; AUTOMOTIVE; AGE; TEXAS	Stringer, C.A., Jr. Zingaro, R.A. Creech, B. Kolar, F.L. 1974
828 Lung		APDC-MIBK AAS	22	0.21-1.8 ug/g, wet wt	0.85 ug/g, wet wt	The association between age and Pb content of organs is shown. Liver, kidney, lung and pancreas samples from Baltimore City residents over 17 years of age who had died suddenly and who had no disease condition at time of death. LIVER; KIDNEYS; PANCREAS; LUNGS; URBAN AREAS; BIOACCUMULATION; CARDIOVASCULAR DISEASES; METALS; MARYLAND	Poklis, A. Freimuth, H.C. 1976

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Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
825 Lung		AAS	29	0.098-0.81 ug/g wet wt	0.30 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, Y. Kitamura, S. 1975
826 Lung	Inhalation	AAS	a) 136 b) 108	a) 0.15-1.24 ppm dry wt b) 0.10-1.08 ppm dry wt	a) 0.50 ppm dry wt b) 0.37 ppm dry wt	a) Urban b) Rural Includes data on influence of age and of cause of death on lung Pb levels. Autopsy material from deaths during 1974-1976, Sor-Trondelag, Norway 139 cases from urban Trondheim 111 cases from rural areas Atmosphere AUTOPSIES; METALS; OCCUPATIONAL HAZARDS; LEAD; LUNGS; NORWAY; URBAN AREAS; RURAL AREAS	Ophus, E.M. Myllus, E.A. 1977

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Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1030 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
827 Lung		MS	98	0.08-41 ug/g dry wt	1.72 ug/g dry wt	Mean is geometric. Samples from deceased Cincinnati, OH residents, age range 23-96 years with a median of 66 years, evenly divided between men and women, blacks, and whites. Occupations included foundry workers, machinists, farmers, domestics, homemakers, clerical workers. Deaths were from normal causes. METALS; TRACE ELEMENTS; ALUMINUM; CADMIUM; CHROMIUM; COBALT; COPPER; GERMANIUM; IODINE; LEAD; MAGNESIUM; MANGANESE; MOLYBDENUM; SELENIUM; TITANIUM; VANADIUM; ZINC; AUTOPSIES; LUNGS; LYMPH NODES; URBAN AREAS; OHIO	Sweet, D.V. Crouse, W.E. Crable, J.V. 1978
828 Lung		Colorimetry	21	1.1-8.5 ug/g dry wt	2.9 ug/g dry wt	None detected in 10 of the samples. Tissues from deceased West Virginia bituminous coal miners. METALS; MINERALS; BERYLLIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; NICKEL; TITANIUM; VANADIUM; ZINC; LUNGS; COAL; SILICA MATERIALS; WEST VIRGINIA; AUTOPSIES; MINING	Crable, J.V. Keenan, R.G. Kinser, R.E. Smallwood, A.W. Hauer, P.A. 1968
829 Lung		AAS	10	0.15-2.10 ppm dry wt	0.47 ppm dry wt	Range of means for 10 replications per autopsy sample. High value from occupational experience. 4 females, 6 males, aged 17 to 79 yr, Trondheim, Norway. One was a taxi driver, the rest had no known occupational Pb exposures. LEAD; METALS; LUNGS; NORWAY	Stegavik, K. Mikalsen, O. Ophus, E.M. Nylius, E.A. 1976

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Lead
7439-92-1
Pb
Atw 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
830 Lung		AAS	10 (50 samples)	a) 0.28-1.14 ppm b) 0.22-2.03 ppm c) 0.29-0.85 ppm d) 0.21-1.15 ppm e) 0.29-1.19 ppm f) 0.29-0.96 ppm	a) 0.56 ppm b) Not given c) Not given d) Not given e) Not given f) Not given	a) Total sample b) Right upper lobe apical lung segment c) Right middle lobe lateral lung segment d) Right middle lobe superior lung segment e) Left upper lobe apical lung segment f) Left lower lobe superior lung segment Levels based on dry weight. Post mortem samples from subjects (aged 20-69 yr) from Trondheim, Norway. METALS; LEAD; LUNGS; LYMPH NODES; NORWAY	Mylius, E.A. Ophus, E.M. 1977
831 Lymph node		MS	98	0.005-56 ug/g dry wt	2.6 ug/g dry wt	Mean is geometric. Samples from deceased Cincinnati, OH residents, age range 23-96 years with a median of 66 years, evenly divided between men and women, blacks, and whites. Occupations included foundry workers, machinists, farmers, domestics, homemakers, clerical workers. Deaths were from normal causes. METALS; TRACE ELEMENTS; ALUMINUM; CADMIUM; CHROMIUM; COBALT; COPPER; GERMANIUM; IODINE; LEAD; MAGNESIUM; MANGANESE; MOLYBDENUM; SELENIUM; TITANIUM; VANADIUM; ZINC; AUTOPSIES; LUNGS; LYMPH NODES; URBAN AREAS; OHIO	Sweet, D.V. Crouse, W.E. Crable, J.V. 1978

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Lead
7439-92-1
Pb
At# 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
832 Lymph node		AAS	10(50 samples)	a) 0.87-2.98 ppm b) 0.99-3.14 ppm	a) Not given b) Not given	a) Right paratracheal hilar node b) Left paratracheal hilar node Level based on dry weight. Post mortem samples from subjects (aged 20-69 yr) from Trondheim, Norway. METALS; LEAD; LUNGS; LYMPH NODES; NORWAY	Hylius, E.A. Ophus, E.M. 1977
833 Muscle		AAS	13	0.09-0.52 ug/g wet wt	0.26 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER, PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Lead
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Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
Blood Muscle		MS	a) 1 b) 6 c) 11	a) Not applicable b) 0.9-21.1 ug/g c) 0.05-1.7 ug/g	a) 21.1 ug/g dry wt b) 6.5 ug/g dry wt c) 0.7 ug/g dry wt	a) Man with amyotrophic lateral sclerosis (ALS) and occupational exposure b) Cases with ALS c) Controls 38-year-old man, with amyotrophic lateral sclerosis (ALS) and occupational exposure to Pb. Necropsy done. One group with ALS and no Pb exposure and one control group with no ALS or exposure. Muscular weakness, abdominal colic and difficulty in swallowing. Sweating. Speech dysarthric. Walking with shuffling gait. Muscle wasting, coarse fasciculations and fine fabrillations of deltoids. Loss of power in lower limbs, clonus marked bilaterally and positive Babinski on right. Ankle and knee reflexes pathologically brisk. LEAD; NEUROMUSCULAR DISEASES; NERVE TISSUE; MUSCLES; SPINAL CORD; OCCUPATIONAL HAZARDS; BIOACCUMULATION; AUTOPSIES; CASE HISTORIES; METALS	Petkau, A. Sawatzky, A. Millier, C.R. Hoogstraten, J. 1974

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Lead
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Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
835 Muscle	Ingestion	AAS	a) 70 b) 54	a) Not given b) Not given	a) 0.0899 ug/g b) 0.0897 ug/g	a) Males b) Females Biological half-times (BHT) obtained by observation of accumulation from 0-90 years and calculation by a mathematical model. Autopsy samples from Tokyo accident victims with no known occupational exposure. CADMIUM; MERCURY; LEAD; METALS; AUTOPSIES; BIOACCUMULATION; AGE; SEX; FOODS; JAPAN	Sugita, M. 1978

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Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
836 Nerve		ES	a) 1 b) 3 c) 12	a) Not applicable b) 2.1-9.7 ug/g dry wt c) 0.11-6.9 ug/g dry wt	a) 9.6 ug/g dry wt b) 7.1 ug/g dry wt c) 1.1 ug/g dry wt	a) Man with amyotrophic lateral sclerosis (ALS) and occupational exposure b) Cases with ALS c) Controls 38-year-old man, with amyotrophic lateral sclerosis (ALS) and occupational exposure to Pb. Necropsy done. One group with ALS and no Pb exposure and one control group with no ALS of exposure. Muscular weakness, abdominal colic and difficulty in swallowing. Sweating. Speech dysarthric. Walking with shuffling gait. Muscle wasting, coarse fasciculations and fine fabrillations of deltoids. Loss of power in lower limbs, clonus marked bilaterally and positive Babinski on right. Ankle and knee reflexes pathologically brisk. LEAD; NEUROMUSCULAR DISEASES; NERVE TISSUE; MUSCLES; SPINAL CORD; OCCUPATIONAL HAZARDS; BIOACCUMULATION; AUTOPSIES; CASE HISTORIES; METALS	Petkau, A. Sawatzky, A. Hillier, C.R. Hoogstraten, J. 1974

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Lead
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Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
837 Ovary		AAS	6	0.34-3.2 ug/g wet wt	1.2 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
838 Pancreas		APDC-MIBK AAS	21	0.49-1.8 ug/g, wet wt	0.98 ug/g, wet wt	The association between age and Pb content of organs is shown. Liver, kidney, lung and pancreas samples from Baltimore City residents over 17 years of age who had died suddenly and who had no disease condition at time of death. LIVER; KIDNEYS; PANCREAS; LUNGS; URBAN AREAS; BIOACCUMULATION; CARDIOVASCULAR DISEASES; METALS; MARYLAND	Poklis, A. Freimuth, H.C. 1976

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Lead
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Pb
Atw 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
839 Pancreas		AAS	30	0.16-1.5 ug/g wet wt	0.50 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
840 Pancreas	Ingestion	AAS	a) 85 b) 48	a) Not given b) Not given	a) 0.235 ug/g b) 0.185 ug/g	a) Males b) Females Biological half-times (BHT) obtained by observation of accumulation from 0-90 years and calculation by a mathematical model. Autopsy samples from Tokyo accident victims with no known occupational exposure. 4.8 years CADMIUM; MERCURY; LEAD; METALS; AUTOPSIES; BIOACCUMULATION; AGE; SEX; FOODS; JAPAN	Sugita, M. 1978

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Lead
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Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
841 Placenta		AAS	502	a) Not given b) Not given	a) 7.0 ug/100 g b) 6.0 ug/100 g	a) Patients with term pregnancy, early membrane rupture, lead belt area b) Patients with term pregnancy, early membrane rupture, control area Samples from 249 pregnant women in Region I with no lead mining activity and 253 in Region II 30-50 miles west of the new lead belt area. Patients were 20-25 years of age, had resided in their respective regions for at least 10 years and had incomes of $7000-10,000 a year. Increased incidence of early membrane rupture during pregnancy LEAD; METALS; BLOOD; FETUS; PREGNANCY; ABORTION; MINING; POPULATION EXPOSURE; MISSOURI; BLOOD SERUM; UMBILICAL CORD; PLACENTA	Fahim, M.S. Fahim, Z. Hall, D.G. 1976

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Lead
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Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
842 Placenta		AAS	502	a) Not given b) Not given	a) 45.3 ug/100 g b) 38.9 ug/100 g	a) Patients with term pregnancy, early membrane rupture, lead belt area b) Patients, with term pregnancy, early membrane rupture, control area Samples from 249 pregnant women in control region with no lead mining activity and 253 in region 30-50 miles west of the new lead belt area. Patients were 20-25 years of age, had resided in their respective regions for at least 10 years and had incomes of $7000-10,000 a year. Incidence of early membrane rupture during pregnancy. 17% in lead belt region as compared to 0.41% in control region. Incidence of premature delivery 13.04% as compared to 7% in controls. LEAD; METALS; BLOOD; FETUS; PREGNANCY; ABORTION; MINING; POPULATION EXPOSURE; MISSOURI; BLOOD SERUM; UMBILICAL CORD; PLACENTA	Fahim, M.S. Fahim, Z. Hall, D.G. 1976
843 Placenta	Inhalation Ingestion	APDC-MIBK AAS	a) 474 b) 333 c) 109 d) 231 e) 236	a) 1.1-39.5 ug/100 g wet wt b) 1.1-39.5 ug/100 g wet wt c) 1.2-27.6 ug/100 g wet wt d) 1.10-38.8 ug/100 g wet wt e) 1.38-39.5 ug/100 g wet wt	a) 8.4 ug/100 g wet wt b) 8.30 ug/100 g wet wt c) 8.89 ug/100 g wet wt d) 8.2 ug/100 g wet wt e) 8.5 ug/100 g wet wt	a) All women b) Nonsmokers c) Smokers d) Rural + semirural e) Urban + industrial Placentas from women living in or near Antwerp, Brussels, Leuven (Louvain), Tournai, and Vilvoorde, Belgium. PLACENTA; BIOACCUMULATION; COMPARATIVE EVALUATIONS; SMOKING; BLOOD; LEAD; MERCURY; CADMIUM; BELGIUM; METALS; UMBILICAL CORD	Roels, H. Huberemont, G. Buchet, J.P. Lauwerys, R. 1978

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Pb
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(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
848 Placenta			58	a) Not given b) Not given c) Not given d) Not given	a) 0.293 ug/g wet wt b) 0.275 ug/g wet wt c) 0.296 ug/g wet wt d) 0.312 ug/g wet wt	a) All cities b) Augusta, GA c) Birmingham, AL d) Charlotte, NC Metal levels correlated with enzyme activities. Samples from 58 normal placentas collected immediately at delivery in hospitals in Charlotte, NC, Birmingham, AL and Augusta, GA. PLACENTA; MANGANESE; BARIUM; CADMIUM; SELENIUM; MERCURY; TIN; VANADIUM; BERYLLIUM; SILVER; COBALT; NICKEL; CHROMIUM; COPPER; ZINC; LEAD; IRON; PLATINUM; BORON; ARSENIC; LITHIUM; METALS; TRACE ELEMENTS; ENZYMES; NORTH CAROLINA; ALABAMA; GEORGIA	Karp, W.B. Robertson, A.F. 1977
845 Skin		AAS	24	0.23-2.0 ug/g wet wt	0.88 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
846 Soft tissue			129	a) 5.6-46.3 mg b) 2.7-20.3 mg c) 3.2-9.7 mg d) 0.3-8.8 mg	a) 15.7 mg b) 9.3 mg c) 6.2 mg d) 3.4 mg	a) Male adults, occupationally exposed b) Male adults, non-exposed c) Female adults d) Children Extensive data for numerous tissues, organs, urine, and feces. Analytical method not given. 35 organs and tissues from 129 cadavers in Cheshire, Great Britain between 1966 and 1973. Sixty male adults, 36 female adults, 23 male and female children 16 yr and younger, 7 occupationally exposed, and 3 cases presumed to have had unusual past exposure to lead. LEAD; BONES; AGE; ADULTS; CHILDREN; INFANTS; HAIR; BLOOD; AUTOPSIES; METALS; UNITED KINGDOM	Barry, P.S.I. 1975

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Pb
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(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
847 Spinal cord		SS	a) 1 b) 4 c) 12	a) Not applicable b) 1.3-14.1 ug/g dry wt c) 0.07-2.3 ug/g dry wt	a) 9.9 ug/g dry wt b) 7.6 ug/g dry wt c) 0.3 ug/g dry wt	a) Man with amyotrophic lateral sclerosis (ALS) and occupational exposure b) Cases with ALS c) Controls 38-year-old man, with amyotrophic lateral sclerosis (ALS) and occupational exposure to Pb. Necropsy done. One group with ALS and no Pb exposure and one control group with no ALS or exposure. Muscular weakness, abdominal colic and difficulty in swallowing. Sweating. Speech dysarthric. Walking with shuffling gait. Muscle wasting, coarse fasciculations and fine fabrillations of deltoids. Loss of power in lower limbs, clonus marked bilaterally and positive Babinski on right. Ankle and knee reflexes pathologically brisk. LEAD; NEUROMUSCULAR DISEASES; NERVE TISSUE; MUSCLES; SPINAL CORD; OCCUPATIONAL HAZARDS; BIOACCUMULATION; AUTOPSIES; CASE HISTORIES; METALS	Petkau, A. Sawatzky, A. Millier, C.F. Hoogstraten, J. 1974

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Lead
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Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
848 Spleen		AAS	12	0.080-0.33 ug/g wet wt	0.20 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
849 Teeth		AAS	18	33.0-167.9 ppm	92.7 ppm	Determinations were also done on soil and interior paint, possible sources of contamination. 18 preadolescent Negro children in a Charleston, SC dental clinic. BLOOD; HAIR; TEETH; CHILDREN; LEAD; SOILS; PAINTS; METALS; SOUTH CAROLINA	Habercam, J.W. Keil, J.E. Beigart, J.B. Croft, M.W. 1974
850 Teeth		AAS	50	a) Not given b) Not given c) Not given	a) 38.0 ppm b) 32.3 ppm c) 36.8 ppm	a) Severnside group, 1972-1973 (recent) b) Severnside group, 1957-1963 (stored) c) Tyneside group, 1973 Teeth from 40 cases of stillbirth and neonatal death. Ten sets of developing teeth from fetuses in Newcastle-upon-Tyne hospitals. TEETH; LEAD; FETUS; NEWBORN; METALS; UNITED KINGDOM	Burkitt, A.J. Nicklesn, G. Stack, M.V. 1975

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Pb
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(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
851 Teeth		X-ray Spectrometry	a) 10 b) 16 c) 12	a) Not given b) Not given c) Not given	a) 7.0 ug/g dentin b) 27.6 ug/g dentin c) 16.6 ug/g dentin	a) 17th Century Hopi b) Contemporary Hopi c) Contemporary California Samples from individual skeletons of Hopi Indians dated 17th century, samples from contemporary Hopi Indian children in Arizona, and samples from children in suburban Northern California. LEAD; STRONTIUM; ZINC; COPPER; MERCURY; CALCIUM; PHOSPHORUS; METALS; TRACE ELEMENTS; MINERALS; TEETH; ARIZONA; CALIFORNIA; DIETS; BIOACCUMULATION; CHILDREN	Kuhnlein, H.V. Calloway, D.H. 1977
852 Teeth		ASV	a) 35 b) 36 c) 6 d) 7 e) 7 f) 7	a) 2.8-111.6 ug/g b) 0-35.3 ug/g c) 122.1-233.4 ug/g d) 9.6-97.8 ug/g e) 0.2-56.1 ug/g f) 0.6-29.8 ug/g	a) 92.3 ug/g b) 4.3 ug/g c) 183.3 ug/g d) 56.0 ug/g e) 13.6 ug/g f) 9.7 ug/g	a) Philadelphia population (sectioned teeth) b) Mexican population (sectioned teeth) c) Philadelphia population (reamed teeth) d) Alaskan population (reamed teeth) e) 12th century Peruvian Indians (reamed teeth) f) Egyptian mummies (reamed teeth) Freshly extracted teeth collected from modern urban Philadelphians, modern North Slope Alaskan Eskimos, Mexican Lacandon and Tzeltalen Indians. Prehistoric teeth from seven Egyptian mummies (1st and 2nd millenia) and seven 12th century Peruvian Indian skeletons form Machu Picchu. TEETH; METALS; ALASKA; MEXICO; PERU; EGYPT; LEAD; INDUSTRIAL POLLUTION; POPULATION EXPOSURE; BIOACCUMULATION; URBAN AREAS; PENNSYLVANIA	Shapiro, I.M. Mitchell, G. Davidson, I. Katz, S.H. 1975

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Lead
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Pb
Atw 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
853 Teeth		AAS	a) 562 b) 506	a) 0.8-50.5 ppm dry wt b) 1.0-108.0 ppm dry wt	a) 11.8 ppm dry wt b) 11.9 ppm dry wt	a) Males b) Females Data available for area of residence, tooth type, and comparisons with other countries. Authors conclude: general pollution responsible for body burdens. Samples from children living in Birmingham, United Kingdom LEAD; METALS; TEETH; CHILDREN; URBAN AREAS; UNITED KINGDOM; INDUSTRIAL POLLUTION	Mackie, A.C. Stephens, R. Townshend, A. Waldron, H.A. 1977
854 Teeth			a) 178 b) 304 c) 77	a) 0-400 ug/g b) 0-200 ug/g c) 0-400 ug/g	a) 198 ug/g b) 41.7 ug/g c) 136 ug/g	a) Black children from areas of deteriorated housing b) White children from newer housing c) White children from intact housing adjacent to lead processor Range concentrations are estimated from table Concentrations in dentine. Shed deciduous teeth of Philadelphia schoolchildren TEETH; LEAD; METALS; CHILDREN; AIR POLLUTION; INDUSTRIAL PLANTS; HEALTH HAZARDS; FACIAL STUDIES	Needleman, H.L. Davidson, I. Sewell, E.M. Shapiro, I.M. 1974
855 Teeth		AAS		1.1-6.4 ppm dry wt	2.49 ppm dry wt	18 whole erupted or unerupted teeth. CADMIUM; LEAD; MEASUREMENT METHODS; TEETH; METALS; DENTISTRY	Langmyhr, F.J. Sundli, A. Jonsen, J. 1974

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Lead
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Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
856 Teeth		ASV	a) 8 b) 2	a) 1.8-4.9 ppm b) 2.8-3.4 ppm	a) Not given b) Not given	a) 8 caries-free teeth from Norwegian teenagers b) Two powdered tooth mixtures Eight permanent teeth and two powdered tooth mixtures from Norwegian teenagers BIOACCUMULATION; TEETH; ADOLESCENTS; NORWAY; METALS; COPPER; LEAD; CADMIUM; ZINC	Oehme, M. Lund, W. Jonsen, J. 1978
857 Teeth		AAS	72	4.27-82.5 ug/g dry wt	15.5 ug/g dry wt	Mean is geometric. Bombay residents. Samples from members of Bhabha Atomic Research Centre's Contributory Health Service Scheme. Teeth collected at random from Dental Section of BARC Hospital. LEAD; METALS; TEETH; INDIA	Khandekar, R.N. Ashawa, S.C. Kelkar, D.N. 1978
858 Teeth		MS	1	a) Not applicable b) Not applicable	a) 33 ppm b) 25 ppm	a) Dentine b) Enamel Subject grew up in England and South Africa, then came to Dallas, Texas. BLOOD; LEAD; OCCUPATIONAL HAZARDS; TEETH; AIR POLLUTION; METALS; BIOACCUMULATION; DIETS; UMBILICAL CORD	Manton, W.I. 1977
859 Teeth						Review LEAD; METALS; BLOOD; TEETH; BONES; HAIR; URINE; MEASUREMENT METHODS; BIOACCUMULATION; METABOLISM; REVIEW	Baloh, R.W. 1974

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
860 Teeth						Review Author comment: About 1% of the work force is exposed to lead levels high enough to result in biochemical and, possibly, neurological damage. LEAD; METALS; INDUSTRIAL POLLUTION; OCCUPATIONAL HAZARDS; FOOD CONTAMINATION; POPULATION EXPOSURE; HEALTH HAZARDS; REVIEW; BLOOD; HAIR; URINE; TEETH; BONES	Grandjean, P. 1978
861 Teeth		X-ray Spectrometry	a) 30 b) 300	a) 2.8-25 ppm/yr b) 0-16.8 ppm/yr	a) 11.2 ppm/yr b) 4.84 ppm/yr	a) Children evaluated for Pb absorption b) Children receiving dental treatment Tooth Pb level divided by age of child. 30 children, aged 1-5 yr, at Children's Hospital of Philadelphia and 300 children, aged 1.8-11 yr, treated at Coleman Pediatric Dentistry Clinic of the School of Dental Medicine at U. of PA. Correlation between free erythroporphyrin concentration and age corrected tooth Pb LEAD; BLOOD; TEETH; PENNSYLVANIA; METALS; MEASUREMENT METHODS; CHILDREN; POPULATION EXPOSURE	Shapiro, I.M. Burke, A. Mitchell, G. Bloch, P. 1978

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Lead
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Pb
At# 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, * mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
862 Teeth		AAS	a) 4 b) 4 c) 26	a) 28-32 ppm b) 18-27 ppm c) Not given	a) 30 ppm b) 26 ppm c) 39 ppm	a) Teeth from fetuses, 1972-1973, enamel b) Teeth from fetuses, 1972-1973, dentine c) Teeth from cases of stillbirth and neonatal death, 1972-1973 There was an increase in lead concentration in recent samples. LEAD; NICKEL; ZINC; CADMIUM; MANGANESE; IRON; METALS; TRACE ELEMENTS; TEETH; INFANTS; FETUS; UNITED KINGDOM	Stack, M.V. Burkitt, A.J. Nickless, G. 1976
863 Teeth		AAS	2253	a) 1.81-10.19 ug/g b) Not given c) Not given	a) 3.73 ug/g b) 70 ug/g c) 1.8 ug/g	a) City or county samples b) 0.18 % of samples c) Medieval samples Cities, industrialized areas, rural and fishing areas in Norway, Medieval Norwegians. METALS; LEAD; TEETH; NORWAY	Fosse, G. Justesen, N.B. 1978
864 Testicle		AAS	8	0.11-0.75 ug/g wet wt	0.35 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sueno, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Lead
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Pb
At# 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
865 Trachea		AAS	17	0.6-8.8 ug/g wet wt.	3.0 ug/g wet wt.	No significant correlation of tracheal Pb and age was demonstrated Tracheas collected at autopsy from 17 residents of Baltimore who had died suddenly and who had no apparent disease conditions at the time of death. LEAD; TRACHEA; BIOACCUMULATION; AGE; URBAN AREAS; AUTOPSIES; METALS; MARYLAND	Poklis, A. Freimuth, H.C. 1975
866 Trachea		AAS	12	0.15-3.2 ug/g wet wt	0.98 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Lead
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Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
867 Umbilical cord		AAS	502	a) Not given b) Not given	a) 12.0 ug/100 g b) 11.6 ug/100 g	a) Patients with term pregnancy, early membrane rupture, lead belt area b) Patients with term pregnancy, early membrane rupture, control area. Samples from 249 pregnant women in Region I with no lead mining activity and 253 in Region II 30-50 miles west of the new lead belt area. Patients were 20-25 years of age, had resided in their respective regions for at least 10 years and had incomes of $7000-10,000 a year. Increased incidence of early membrane rupture during pregnancy LEAD; METALS; BLOOD; FETUS; PREGNANCY; ABORTION; MINING; POPULATION EXPOSURE; MISSOURI; BLOOD SERUM; UMBILICAL CORD; PLACENTA	Fahim, M.S. Fahim, Z. Hall, D.G. 1976
868 Urine	Inhalation	AAS	3, 3 Controls	a) Not given b) 5-26 ug/100 ml	a) <1 ug/100 ml b) 10.5 ug/100 ml	a) Pre-exposure b) Post-exposure Fumes from firing weapons HEALTH HAZARDS; LEAD POISONING; FUMES; OCCUPATIONAL DISEASES; INDUSTRIAL HYGIENE; METALS; AIR POLLUTION; FLORIDA; BLOOD; URINE	Anania, T.L. Lucas, J.B. Seta, J.A. 1974

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Lead
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Pb
At# 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
869 Urine	Inhalation	AAS	a) 15 b) 12 c) 7	a) 965-2645 ug/24 hr b) 737-1980 ug/24 hr c) 1047-4411 ug/24 hr	a) 1805 ug/24 hr b) 1359 ug/24 hr c) 2645 ug/24 hr	a) Pain for > 3 months b) Pain subsided in 3 months c) No pain Levels after EDTA therapy Duration of abdominal pain Workers in a secondary smelter who were treated for lead poisoning between June 1973 & December 1975. Mean employment time 4.7 yrs. (0.5-23 yrs.). Blood Pb levels in workers should not exceed 50 ug/100 Pb to minimize illness. LEAD; BLOOD; URINE; OCCUPATIONAL HAZARDS; METALS; CALIFORNIA	Dahlgren, J. 1978
879 Urine		AAS	216	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 24.8 ug/l b) 19.0 ug/l c) 26.5 ug/l d) 27.8 ug/l e) 32.0 ug/l f) 19.5 ug/l	a) Policemen on foot patrol b) Office workers in downtown Houston (control for (a)) c) Garage attendants d) Orderlies and custodians (control for (b)) e) Females living within 2 blocks of freeway f) Females living away from freeway (control for (e)) Six groups, each of 26 individuals, in the metropolitan area of Houston, TX, policemen on foot patrol, office workers in downtown Houston, garage attendants, orderlies and custodians, females living within two blocks of a freeway, and females living away from a freeway. CADMIUM; LEAD; TRACE ELEMENTS; TEXAS; BLOOD; URINE; HAIR; FECES; ZINC; MANGANESE; COPPER; PLATINUM; PALLADIUM; METALS; AUTOMOTIVE; OCCUPATIONAL HAZARDS	Johnson, D.E. Tillery, J.B. Prevost, R.J. 1975

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Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
871 Urine		ASV	87	0.7-21.6 ug/l	7.9 ug/l	Yanomamo Indians Yanomamo Indians from Venezuela BLOOD; URINE; HAIR; VENEZUELA; MERCURY; CADMIUM; LEAD; COPPER; METALS; MICHIGAN	Hecker, L.H. Allen, M.E. Dinman, B.D. Neel, J.V. 1974
872 Urine		AAS	a) 11 b) 10 c) 6 d) 4	a) Not given b) Not given c) Not given d) Not given	a) 37.88 ug/l b) 105.10 ug/l c) 91.00 ug/l d) 112.50 ug/l	a) Before exposure b) 1 month post-exposure c) 3 month post-exposure d) 9 month post-exposure Samples from workers employed in storage battery plant in Italy. No symptoms of lead poisoning during the study. Rate of abnormal metaphases, mostly with chromatid and one-break chromosome aberrations, was approximately doubled after one month of work. Fumes LEAD; INDUSTRIAL PLANTS; CHROMOSOMAL ABERRATIONS; INDUSTRIAL HYGIENE; URINE; BLOOD; METALS; ITALY	Forni, A. Cambiaghi, G. Secchi, G.C. 1976
873 Urine		APDC-MIBK AAS		Not given	0.01854 ppm	12 samples. Extractions of composite samples gave high coefficient of variation. The 1% acetic acid may not have preserved the samples. PLATINUM; PALLADIUM; LEAD; METALS; BLOOD; URINE; FECES; HAIR; MEASUREMENT METHODS; TRACE ELEMENTS	Tillery, J.B. Johnson, D.E. 1975

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Lead
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Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
874 Urine		AAS	1	a) Not given b) 2,551 ug/24 hr c) 100-300 ug/24 hr	a) 750 ug/24 hr b) Not given c) Not given	a) Day of hospital admission b) Maximum during therapy with EDTA c) During zinc sulfate administration a) and c) estimated from graph. A 37-year old man who had worked for 5 months in a lead battery factory and 25 years previously as a spray painter using lead-based paints. Vague pains in extremities, easily fatigued, generalized weakness, headache, loss of appetite. Mild neuropathy and myopathy LEAD; METALS; ZINC; CASE HISTORIES; OCCUPATIONAL HAZARDS; INDUSTRIAL PLANTS; PAINTS; LEVULINIC ACIDS; ENZYMES; BLOOD; BLOOD SERUM; URINE; HAIR	Thomasino, J.A. Zuroweste, E. Brooks, S.M. Petering, H.G. Lerner, S.I. Finelli, V.N. 1977

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
875 Urine		Colorimetry	a) 20 b) 22 c) 11 d) 13 e) 14 f) 7	a) 0.14-1.75 umol/l b) 0.15-1.25 umol/l c) 0.11-1.08 umol/l d) 0.07-0.41 umol/l e) 0.22-3.48 umol/l f) 0.07-0.24 umol/l	a) 0.62 umol/l b) 0.35 umol/l c) 0.40 umol/l d) 0.17 umol/l e) 1.43 umol/l f) 0.14 umol/l	a) Long-term Pb exposure, positive laboratory signs b) Long-term exposure, negative laboratory signs c) Short-term exposure, positive laboratory signs d) Short-term exposure, negative laboratory signs e) Workers with Kelmet alloys-heavy exposure f) Controls Values are for total Pb. Results also given for non-precipitable lead. 66 workers in lead-glazing pottery with intermediate exposure. Subdivided by length of exposure and laboratory signs of increased absorption. Also 14 workers employed in casting kelmet alloys (heavy Pb exposure) and 7 controls. LEAD; METALS; OCCUPATIONAL HAZARDS; BIOACCUMULATION; LEAD COMPOUNDS; INDUSTRIES; URINE; INDUSTRIAL PLANTS	Kawai, M. 1976
876 Urine	Ingestion		1	a) Not applicable b) Not applicable	a) 0.281 mg/24 hr b) 8.2 mg/24 hr	a) Before therapy for poisoning b) After 2 days of Ca-EDTA therapy A 59-year-old woman poisoned by the lead in an herbal medication. Insomnia, irritability, diffuse pains. Anemia, basophilic stippling, erythroid hyperplasia of bone marrow. LEAD; METALS; LEAD POISONING; CASE HISTORIES; BLOOD; ANEMIA	Kalman, S.M. 1977

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
877 Urine			6	10-165 mg/100 ml	Not given	Alkyl lead workers, daily levels for 6 wk. Considerable variation in levels for each overtime. Delta-aminolevulinic acid (ALA) levels range: 0.60-0.84 mg/100 ml. No correlation between urine lead and ALA levels, or between lead in air and either of these levels. LEAD; OCCUPATIONAL HAZARDS; METALS; OCCUPATIONAL DISEASES; LEAD POISONING; BLOOD; URINE; LEVULINIC ACIDS	Cope, R.F. Pancano, E.P. Rinehart, W.E. TerHaar, G.L. 1979
878 Urine						Review LEAD; METALS; BLOOD; TEETH; BONES; HAIR; URINE; MEASUREMENT METHODS; BIOACCUMULATION; METABOLISM; REVIEW	Baloh, R.W. 1974
879 Urine						Review 'Normal' levels and exposure limits given. Author comment: About 1% of the work force is exposed to lead levels high enough to result in biochemical and, possibly, neurological damage. LEAD; METALS; INDUSTRIAL POLLUTION; OCCUPATIONAL HAZARDS; FOOD CONTAMINATION; POPULATION EXPOSURE; HEALTH HAZARDS; REVIEW; BLOOD; HAIR; URINE; TEETH; BONES	Grandjean, P. 1978

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
880 Urine	Ingestion		1	281-1044 ug/24 hr	Not given	Lead level after taking pills containing 0.5 mg lead per pill (30 pills per day). Samples from 59 yr old woman admitted to Stanford University Hospital. Anemia, diffuse pain, abdominal pain, depression, irritability LEAD; METAL POISONING; METALS; CASE HISTORIES; LEAD POISONING; BLOOD; URINE; CALIFORNIA	Lightfoote, J. Blair, J. Cohen, J.B. 1977
881 Urine	Ingestion		1	Not applicable	0.25 mg/24 hr	Pb level 2 yrsafter eating a health food supplement contaminated with 190 ppm Pb. 46 yr old actress admitted to Hospital of Scripps Clinic in 1976. Fatigue, dizziness, muscular weakness, abdominal pain, colic, constipation. Patient developed acute granulocytic leukemia. Health food supplement LEAD; METAL POISONING; METALS; FOOD CONTAMINATION; LEUKEMIA; CASE HISTORIES; LEAD POISONING; URINE	Crosby, W.H. 1977

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Lead
7439-92-1
Pb
At# 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
882 Urine			5	a) 0.026-0.057 mg/24 hr b) 0.059-0.329 mg/24 hr	a) 0.042 mg/24 hr b) 0.177 mg/24 hr	a) Multiple sclerosis patients, before edetic acid b) Multiple sclerosis patients, after edetic acid 5 patients, aged 25-56 yr, 1 black, 4 whites. Duration of disease: 2 mo to 10 yr. LEAD; URINE; BLOOD; BONES; CENTRAL NERVOUS SYSTEM DISEASES	Westerman, N.P. Bruetman, M. Pfitzer, E. 1974
883 Urine			a) 50 b) 4 c) 5 d) 9 e) 24	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 146 ug/l b) 325 ug/l c) 86 ug/l d) 199 ug/l e) 77 ug/l	a) Hyperactive children with no known cause for condition b) Hyperactive children with no history of lead poisoning c) Hyperactive children with highly probable cause for condition d) Hyperactive children with possible cause for condition e) Controls Values are for post-penicillamine urine lead Outpatients in 1 of 3 clinics in Kings County Hospital - Downstate Medical Center complex in Brooklyn, NY, aged 3.5-12 yr. LEAD; METALS; BLOOD; URINE; CHILDREN; LEAD POISONING; BEHAVIOR DISORDERS	David, O.J. 1974

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Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1169 C
(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
884 Urine	Inhalation Ingestion	APDC-MIBK AAS	a) 40 b) 29 c) 45	a) 5.2-70.6 ug/g creatinine b) 3.3-20.6 ug/g creatinine c) 2.8-12.6 ug/g creatinine	a) 27.4 ug/g creatinine b) 8.15 ug/g creatinine c) 7.35 ug/g creatinine	a) <1 km from Pb smelter b) 2.5 km from Pb smelter c) Rural area (Controls) Children, aged 10-14 yr, living and going to school less than 1 km from a Pb smelter, 1.5-2.5 km from the Pb smelter, and in a rural area 4 km from the center of Leuven, Belgium. Study was conducted 18 mo after pollution control measures were implemented. Children seemed in good health. Pb and Cd emissions from Pb smelter LEAD; CADMIUM; METALS; SMELTERS; CHILDREN; BLOOD; URINE; ENZYMES; INDUSTRIAL EMISSIONS; AIR POLLUTION; COMPARATIVE EVALUATIONS, BELGIUM	Roels, H.A. Buchet, J.P. Lauwerys, R. Bruaux, P. Claeys-Thoreau, F. Lafontaine, A. van Overschelde, J. Verduyn, G. 1978
885 Urine		APDC-MIBK AAS	9	0.11-1.80 umol, per 24 hr	0.42 umole, per 24 hr	Lead workers Male volunteers, aged 21 to 63 yr LEAD; METALS; COPROPORPHYRINS; URINE; BLOOD; BLOOD SERUM; PROTEINS	Araki, S. 1978
886 Urine		Colorimetry	123	<0.01-0.31 mg/l	Not given	Occupational exposure to tetraethyl and tetramethyl lead at a plant producing lead antiknock compounds. Low positive correlation with urinary levels of delta-aminolevulinic acid (range <0.1-2.5 mg/100 ml). METALS; LEAD; LEAD ORGANIC COMPOUNDS; CHRONIC EXPOSURE; INDUSTRIAL POLLUTION; URINE	Robinson, T.R. 1974

Lithium
7439-93-2
Li
AEW 6.941, MP 180.54 C, BP 1336 C, VP 1 mm Hg at 723 C, 10 mm Hg at 890 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
887 Blood	Ingestion	AAS	a) 6 b) 6 c) 6 d) 6 e) 6 f) 6	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable	a) 0.12 mmol/l b) 0.25 mmol/l c) 0.62 mmol/l d) 1.0 mmol/l e) 0.38 mmol/l f) 1.0 mmol/l	a) Erythrocytes, healthy subjects, 1 hr after 16 mmol LiCl b) Erythrocytes, healthy subjects, 1 hr after 32 mmol LiCl c) Plasma, healthy subjects, 1 hr after 16 mmol LiCl d) Plasma, healthy subjects, 1 hr after 32 mmol LiCl e) Erythrocytes, after 16 mmol LiCl twice a day, 6 days f) Plasma, after 16 mmol LiCl twice a day, 6 days Values estimated from graph. Staff of the Institute of Psychiatry in London or medical students, healthy subjects, aged 22 to 33 yr, weighing 65 to 83 kg. Symptoms include nausea, muzziness, feebleness LITHIUM; METALS; DRUG THERAPY; BLOOD; BLOOD PLASMA; ERYTHROCYTES	Karniol, I.G. Dalton, J. Lader, M.H. 1978

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Lithium
7439-93-2
Li
AtW 6.941, MP 180.54 C, BP 1336 C, VP 1 mm Hg at 723 C, 10 mm Hg at 890 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
888 Blood, serum			2	a) 0.6-1.9 mmol/l b) 0.6-0.9 mmol/l c) 3.3-0.6 mmol/l d) 0.1-0.6 mmol/l	a) Not given b) Not given c) Not given d) Not given	a) During hemodialysis, patient 1, values decreased rapidly from initial high value to low value over 10 hr b) After hemodialysis, patient 1, values leveled off at 0.8 after initial low value over 30 hr c) Before hemodialysis, patient 2, values decreased rapidly from initial peak, for 16 hr, then varied around level 1.0 mmol/l for 20 hr d) After hemodialysis, patient 2, values decreased steadily Values estimated from graph Graphs showing steady-state lithium concentrations for various dosages of several types of tablets also available. Samples from severely intoxicated (lithium) males, aged 65 and 66 yr LITHIUM; METALS; BLOOD; SPINAL FLUID	Amdisen, A. 1978
889 Placenta			58	a) Not given b) Not given c) Not given d) Not given	a) 0.010 ug/g wet wt b) 0.004 ug/g wet wt c) 0.015 ug/g wet wt d) 0.011 ug/g wet wt	a) All cities b) Augusta, GA c) Birmingham, AL d) Charlotte, NC Metal levels correlated with enzyme activities. Samples from 58 normal placentas collected immediately at delivery in hospitals in Charlotte, NC, Birmingham, AL and Augusta, GA. PLACENTA; MANGANESE; BARIUM; CADMIUM; SELENIUM; MERCURY; TIN; VANADIUM; BERYLLIUM; SILVER; COBALT; NICKEL; CHROMIUM; COPPER; ZINC; LEAD; IRON; PLATINUM; BORON; ARSENIC; LITHIUM; METALS; TRACE ELEMENTS; ENZYMES; GEORGIA; ALABAMA; NORTH CAROLINA	Karp, W.B. Robertson, A.F. 1977

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Lithium
7439-93-2
Li
Aew 6.941, MP 180.54 C, BP 1336 C, VP 1 mm Hg at 723 C, 10 mm Hg at 890 C (CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
890 Spinal fluid			1	0.4-0.8 mmol/l	Not given	Values decreased steadily over 40 hr Values estimated from graph.. Samples from severely intoxicated (Li) male, aged 65 yr. LITHIUM; METALS; BLOOD; SPINAL FLUID	Amdisen, A. 1978

Lithium, ion (Li(1+))
17341-24-1
Li

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
891 Blood			a) 16 b) 15 c) 16 d) 15	a) Not given b) Not given c) Not given d) Not given	a) 0.46 mmol/l b) 0.38 mmol/l c) 0.70 mmol/l d) 0.87 mmol/l	a) Erythrocyte level in responders b) Erythrocyte level in non-responders c) Plasma level in responders d) Plasma level in non-responders All had Li treatment for at least 12 mos. Samples from patients at a lithium clinic, aged 21 to 67 yrs, who had histories of recurrent depression and/or mania. LITHIUM; METALS; BLOOD PLASMA; ERYTHROCYTES	Mendels, J. Frazer, A. Baron, J. Kukopulos, A. Reginaldi, D. Tondo, L. Caliari, B. 1976

Magnesium
7439-95-4
Mg
AtW 24.305, MP 651 C, BP 1100 C, VP 1 mm Hg at 621 C, 10 mm Hg at 740 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
892 Blood		AAS	a) 25 b) 50 c) 25 d) 50	a) Not given b) Not given c) Not given d) Not given	a) 2.64 ug/100 ml b) 2.71 ug/100 ml c) 2.89 ug/100 ml d) 2.78 ug/100 ml	a) Maternal blood, birth weights < 2500 g b) Controls, birth weights > 2500 g c) Cord blood, birth weights < 2500 g d) Controls, birth weights > 2500 g Difference not significant at P< 0.05 level. Women giving birth in Newark, N.J. Test and control groups matched for age (19.4 and 19.8 years), weights, smoking habits, ethnicity (84% black, 16% Hispanic) and socioeconomic status. METALS; COPPER; LEAD; IRON; MAGNESIUM; CALCIUM; BLOOD; INFANTS	Bogden, J.D. Thind, I.S. Louria, D.B. Caterini, H. 1978
893 Blood, cells		NMR	a) 1 b) 1	a) Not given b) Not given	a) 0.25 mM b) 0.67 mM	a) Aerobic b) Anerobic Intracellular concentration of free Mg+2 in normal red blood cells. MAGNESIUM; ERYTHROCYTES; METALS; BLOOD	Gupta, R.K. Benovic, J.L. Rose, Z.B. 1978
894 Blood, serum		AAS	27	a) Not given b) Not given c) Not given d) Not given	a) 1928 ug/100 ml b) 1858 ug/100 ml c) 1908 ug/100 ml d) 1813 ug/100 ml	a) Males b) Females c) Nonpregnant women d) Women taking oral contraceptives No trends in hair Mg with age. Volunteers were 11 male and 16 female residents of Tucson, AZ, ages from 16-84 years. HAIR; IRON; MAGNESIUM; COPPER; ZINC; BLOOD SERUM; ORAL CONTRACEPTIVES; DIETS; TRACE ELEMENTS; AGE; METALS; ARIZONA	Deeming, S.B. Weber, C.W. 1978

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
895 Blood, whole		AAS	12	0.1-21.9 mg	8.4 mg	Values are for menstrual blood per menstrual period. 12 adolescent girls, mean age 13.6 yr. ZINC; MAGNESIUM; COPPER; IRON; ADOLESCENTS; MENSTRUATION; METALS	Greger, J.L. Buckley, S. 1977
896 Hair		AAS	27	a) Not given b) Not given c) Not given d) Not given	a) 60 ppm b) 58 ppm c) 54 ppm d) 70 ppm	a) Males b) Females c) Nonpregnant women d) Women taking oral contraceptives No trends in hair Mg with age. Volunteers were 11 male and 16 female residents of Tucson, AZ, ages from 16-84 years. HAIR; IRON; MAGNESIUM; COPPER; ZINC; BLOOD SERUM; ORAL CONTRACEPTIVES; DIETS; TRACE ELEMENTS; AGE; METALS; ARIZONA	Deeming, S.B. Weber, C.W. 1978
897 Hair		AAS	82	Not given	235 ug/g	Pubic hair used because of less strenuous treatment prior to study. Feminine deodorant spray increased values. Setting gel and permanent waving lotion were good leaching agents. Samples from healthy, pregnant women in Missouri were collected prior to delivery. ZINC; HAIR; MINERAL METABOLISM; METALS; BIOACCUMULATION; MAGNESIUM; COPPER; CALCIUM; MISSOURI	Hilderbrand, D.C. White, D.H. 1974

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Magnesium
7439-95-4
Mg
AtW 24.305, MP 651 C, BP 1100 C, VP 1 mm Hg at 621 C, 10 mm Hg at 740 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
898 Hair		AAS	10	12-166 ug/g	Not given	Average of 84% Mg extracted with 1% nitric acid Specimens from donors aged 12 to 60 yr and from various geographic exposure areas. SODIUM; MAGNESIUM; POTASSIUM; CALCIUM; MANGANESE; ZINC; NICKEL; COPPER; IRON; CADMIUM; LEAD; HAIR; NUTRITIONAL DEFICIENCIES; BIOACCUMULATION; MINERAL METABOLISM; METALS; TRACE ELEMENTS	Hinners, T.A. Terrill, W.J. Kent, J.L. Colucci, A.V. 1974
899 Lung		MS	98	16-970 ug/g dry wt	63.1 ug/g dry wt	Mean is geometric. Samples from deceased Cincinnati, OH residents, age range 23-96 years with a median of 66 years, evenly divided between men and women, blacks and whites. Occupations included foundry workers, machinists, farmers, domestics, homemakers, clerical workers. Deaths were from normal causes. METALS; TRACE ELEMENTS; ALUMINUM; CADMIUM; CHROMIUM; COBALT; COPPER; GERMANIUM; IODINE; LEAD; MAGNESIUM; MANGANESE; MOLYBDENUM; SELENIUM; TITANIUM; VANADIUM; ZINC; AUTOPSIES; LUNGS; LYMPH NODES; URBAN AREAS; OPIO	Sweet, D.V. Crouse, W.E. Crable, J.V. 1978

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Magnesium
7439-95-4
Mg
AtW 24.305, MP 651 C, BP 1100 C, VP 1 mm Hg at 621 C, 10 mm Hg at 740 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
900 Lung		AAS	26	270-817 ug/g dry wt	525 ug/g dry wt	None detected in 10 of the samples. Tissues from deceased West Virginia bituminous coal miners. METALS; MINERALS; BERYLLIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; NICKEL; TITANIUM; VANADIUM; ZINC; LUNGS; COAL; SILICA MATERIALS; WEST VIRGINIA; AUTOPSIES; MINING	Crable, J.V. Keenan, R.G. Finser, R.F. Smallwood, A.W. Mauer, P.A. 1968
901 Lymph node		MS	98	640-2.7 x 10(E+4) ug/g dry wt	3200 ug/g dry wt	Mean is geometric. Samples from deceased Cincinnati, OH residents, age range 23-96 years with a median of 66 years, evenly divided between men and women, blacks and whites. Occupations included foundry workers, machinists, farmers, domestics, homemakers, clerical workers. Deaths were from normal causes. METALS; TRACE ELEMENTS; ALUMINUM; CADMIUM; CHROMIUM; COBALT; COPPER; GERMANIUM; IODINE; LEAD; MAGNESIUM; MANGANESE; MOLYBDENUM; SELENIUM; TITANIUM; VANADIUM; ZINC; AUTOPSIES; LUNGS; LYMPH NODES; URBAN AREAS; OHIO	Sweet, D.V. Crouse, W.E. Crable, J.V. 1978
902 Skin		AAS	27	a) 74-112 mg/kg dry defatted wt b) 73-110 mg/kg dry defatted wt c) 74-103 mg/kg dry defatted wt d) 79-95 mg/kg dry defatted wt	a) 87 mg/kg dry defatted wt b) 87 mg/kg dry defatted wt c) 82 mg/kg dry defatted wt d) 86 mg/kg dry defatted wt	a) 20-29 yr b) 30-39 yr c) 40-59 yr d) 60 yr and above 4 mm punch biopsies obtained from normal subjects ranging in age from 20-76 yr. SKIN; CALCIUM; PHOSPHORUS; AGE; MAGNESIUM; COMPARATIVE EVALUATIONS; METALS	Subryan, V.L. Solomons, C.C. Gordon, S.G. Neldner, K.H. Reeve, E.B. 1975

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Magnesium
7439-95-4
Mg
Atw 24.305, MP 651 C, BP 1100 C, VP 1 mm Hg at 621 C, 10 mm Hg at 740 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
903 Urine			a) 3 b) 3 c) 2 d) 2	a) 114-222 mg/24 hr b) 107-239 mg/24 hr c) 178-296 mg/24 hr d) 150-290 mg/24 hr	a) 178 mg/24 hr b) 176.7 mg/24 hr c) 237 mg/24 hr d) 220 mg/24 hr	a) Low fiber diet b) Low fiber diet plus cellulose c) High fiber diet d) High fiber diet plus cellulose Plasma concentrations also determined Iranian subjects ingested low- or high-fiber diets, plus a supplement of Whatman #3 filter paper dispersed in apple compote. ZINC; CALCIUM; MAGNESIUM; PHOSPHORUS; FECES; URINE; IRAN; DIETS; CELLULOSE; METABOLISM; FIBERS; BLOOD PLASMA; METALS	Ismail-Beigi, F. Reinhold, J.G. Faraji, B. Abadi, P. 1977

Malonamide, 2-ethyl-2-phenyl- (8 CI)
Propanediamide, 2-ethyl-2-phenyl- (9 CI)
7206-76-0
C11-H14-N2-02

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
90a Blood, plasma		GC	10 (17 samples)	2.3-9.1 ug/ml	6.2 ug/ml	Patients on primidone therapy. Dose rates not given. DRUGS; ANTICONVULSANTS; MEASUREMENT METHODS; BLOOD PLASMA; METABOLITES	Leal, K.W. Wilensky, A.J. Rapport, R.L. 1978

Mandelic acid (8 CI)
Benzeneacetic acid, alpha-hydroxy- (9 CI)
90-64-2
C8-H8-O3

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
905 Urine	Inhalation	GC	a) 11 b) 6 c) 3 d) 6	a) Not given b) Not given c) Not given d) Not given	a) 35 mg/g creatinine b) 61 mg/g creatinine c) 17 mg/g creatinine d) 42 mg/g creatinine	a) Styrene polymerization worker b) Styrene purification worker c) Laborer d) Styrene manufacture worker Workers in styrene polymerization plant in the United States Industrial contamination INDUSTRIAL POLLUTION: STYRENES; METABOLITES; BLOOD	Wolff, M.S. Lorimer, W.V. Lilis, R. Selikoff, I.J. 1978

Manganese
7439-96-5
Mn
AtW 54.9380, MP 1244 C, BP 2095 C, VP 1 mm Hg at 1292 C, 10 mm Hg at 1510 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
906 Blood, plasma		ES	20	a) Not given b) Not given	a) Approx 1.4 ug/100 ml b) Approx 2.0 ug/100 ml	a) At 16 wk gestation b) At 38 wk gestation Values are estimated from graph. Samples from 20 pregnant women at University of Colorado Medical Center. Subjects were Caucasians, middle or upper socioeconomic level, mean age of 22 yrs. Subjects were chosen on basis of good health and nutrition. No evidence of impaired glucose tolerance. No infants with congenital malformations. ZINC; COPPER; CHROMIUM; MANGANESE; IRON; METALS; MINERALS; PREGNANCY; MINERAL METABOLISM; BLOOD PLASMA; HAIR; TRACE ELEMENTS; COLORADO	Hambidge, K.M. Droegemueller, W. 1974
907 Blood, serum		NA	a) 16 b) 46	a) Not given b) Not given	a) 0.64 ug/l b) 0.57 ug/l	a) Patients with acute myocardial infarction b) Controls Blood samples from 62 persons in Belgium 45 hospital patients (29 free of obvious medical disease, 16 with acute myocardial infarction), and 17 receiving employment physicals. MANGANESE; HEART DISEASES; BELGIUM; COPPER; ZINC; METALS; BLOOD SERUM	Versieck, J. Barbier, F. Speecke, A. Hoste, J. 1975

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Manganese
7439-96-5
Mn
AtW 54.9380, MP 1244 C, BP 2095 C, VP 1 mm Hg at 1292 C, 10 mm Hg at 1510 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
908 Blood, whole		AAS		a) 0.5-9.8 ug/100 ml b) Not given	a) 5.7 ug/100 ml b) 5.6 ug/100 ml	a) Controls b) Autoworkers Autoworkers with high blood Pb levels. Welding fume Additives CADMIUM; NICKEL; MANGANESE; COPPER; CHROMIUM; METALS; OCCUPATIONAL HAZARDS; LEAD; LEVULINIC ACIDS; ENZYMES; HEMOGLOBINS; CARBON INORGANIC COMPOUNDS; AIR POLLUTION; AUTOMOTIVE; INDUSTRIAL PLANTS; BLOOD	Clausen, J. Mastogi, S.C. 1977b
909 Blood, whole		AAS	a) 5 b) 20 c) 32	a) 8-18 ppb b) 6-23 ppb c) 6-30 ppb	a) 10 ppb b) 13 ppb c) 10 ppb	a) Unexposed residents near Mn plant b) Workers in plant, exposed 1 or more yr c) Unexposed persons from various parts of Norway No correlation between Mn level and time of exposure. MANGANESE; TRACE ELEMENTS; METALS; OCCUPATIONAL HAZARDS; BLOOD; MEASUREMENT METHODS; NORWAY	Tsalev, D.L. Langmyhr, F.J. Gunderson, N. 1977
910 Hair		AAS	10	0.2-4.0 ug/g	Not given	Average of 82% Mn extracted with 1% nitric acid Specimens from donors aged 12 to 60 yr and from various geographic exposure areas. SODIUM; MAGNESIUM; POTASSIUM; CALCIUM; MANGANESE; ZINC; NICKEL; COPPER; IRON; CADMIUM; LEAD; HAIR; NUTRITIONAL DEFICIENCIES; BIOACCUMULATION; MINERAL METABOLISM; METALS; TRACE ELEMENTS	Hinners, T.A. Terrill, W.J. Kent, J.L. Colucci, A.V. 1974

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Manganese
7439-96-5
Mn
Atw 54.9380, MP 1244 C, BP 2095 C, VP 1 mm Hg at 1292 C, 10 mm Hg at 1510 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
911 Hair		ES	20	a) Not given b) Not given	a) Approx 0.17 ug/g dry wt b) Approx 0.13 ug/g dry wt	a) At 16 wk gestation b) At 38 wk gestation Values are estimated from graph Samples from 20 pregnant women at University of Colorado Medical Center. Subjects were Caucasians, middle or upper socioeconomic level, mean age of 22 yrs. Subjects were chosen on basis of good health and nutrition. No evidence of impaired glucose tolerance. No infants with congenital malformations. ZINC; COPPER; CHROMIUM; MANGANESE; IRON; METALS; MINERALS; PREGNANCY; MINERAL METABOLISM; BLOOD PLASMA; HAIR; TRACE ELEMENTS; COLORADO	Hambidge, K.M. Droegemueller, W. 1974
912 Liver		ES	10	a) Not given b) Not given	285 ug/g	Arithmetic mean Geometric mean=264 ug/g. Concentrations based on ash weight Samples from ten healthy adult males who were accident victims. METALS; SILVER; ALUMINUM; BARIUM; CADMIUM; COBALT; CHROMIUM; COPPER; IRON; MANGANESE; MOLYBDENUM; NICKEL; LEAD; TIN; STRONTIUM; TITANIUM; ZINC; LIVER	Perry, H.M., Jr. Perry, E.F. Nixon, D.B. 1977

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Manganese
7439-96-5
Mn
AtW 54.9380, MP 1244 C, BP 2095 C, VP 1 mm Hg at 1292 C, 10 mm Hg at 1510 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
913 Lung		MS	98	0.09-81 ug/g dry wt	1.20 ug/g dry wt	Mean is geometric. Samples from deceased Cincinnati, OH residents, age range 23-96 years with a median of 66 years, evenly divided between men and women, blacks, and whites. Occupations included foundry workers, machinists, farmers, domestics, homemakers, clerical workers. Deaths were from normal causes. METALS; TRACE ELEMENTS; ALUMINUM; CADMIUM; CHROMIUM; COBALT; COPPER; GERMANIUM; IODINE; LEAD; MAGNESIUM; MANGANESE; MOLYBDENUM; SELENIUM; TITANIUM; VANADIUM; ZINC; AUTOPSIES; LUNGS; LYMPH NODES; URBAN AREAS; OHIO	Sweet, D.V. Crouse, W.E. Crable, J.V. 1978
918 Lung		ES	26	0.5-5.2 ug/g dry wt	2.4 ug/g dry wt	None detected in 10 of the samples. Tissues from deceased West Virginia bituminous coal miners. METALS; MINERALS; BERYLLIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; NICKEL; TITANIUM; VANADIUM; ZINC; LUNGS; COAL; SILICA MATERIALS; WEST VIRGINIA; AUTOPSIES; MINING	Crable, J.V. Keenan, R.G. Vinser, R.E. Smallwood, A.W. Mauer, P.A. 1968

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Manganese
7439-96-5
Mn
AtW 54.9380, MP 1244 C, BP 2095 C, VP 1 mm Hg at 1292 C, 10 mm Hg at 1510 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
915 Lymph node		MS	98	0.20-300 ug/g dry wt	4.34 ug/g dry wt	Mean is geometric. Samples from deceased Cincinnati, OH residents, age range 23-96 years with a median of 66 years, evenly divided between men and women, blacks, and whites. Occupations included foundry workers, machinists, farmers, domestics, homemakers, clerical workers. Deaths were from normal causes. METALS; TRACE ELEMENTS; ALUMINUM; CADMIUM; CHROMIUM; COBALT; COPPER; GERMANIUM; IODINE; LEAD; MAGNESIUM; MANGANESE; MOLYBDENUM; SELENIUM; TITANIUM; VANADIUM; ZINC; AUTOPSIES; LUNGS; LYMPH NODES; URBAN AREAS; OHIO	Sweet, D.V. Crouse, W.E. Crable, J.V. 1978
916 Placenta			58	a) Not given b) Not given c) Not given d) Not given	a) 0.115 ug/g wet wt b) 0.052 ug/g wet wt c) 0.115 ug/g wet wt d) 0.188 ug/g wet wt	a) All cities b) Augusta, GA c) Birmingham, AL d) Charlotte, NC Metal levels correlated with enzyme activities. Samples from 58 normal placentas collected immediately at delivery in hospitals in Charlotte, NC, Birmingham, AL and Augusta, GA. PLACENTA; MANGANESE; BARIUM; CADMIUM; SELENIUM; MERCURY; TIN; VANADIUM; BERYLLIUM; SILVER; COBALT; NICKEL; CHROMIUM; COPPER; ZINC; LEAD; IRON; PLATINUM; BORON; ARSENIC; LITHIUM; METALS; TRACE ELEMENTS; ENZYMES; GEORGIA; ALABAMA; NORTH CAROLINA	Karp, W.B. Robertson, A.F. 1977

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Manganese
7439-96-5
Mn
Atw 54.9380, MP 1244 C, BP 2095 C, VP 1 mm Hg at 1292 C, 10 mm Hg at 1510 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
917 Teeth		AAS	a) 4 b) 4 c) 26	a) 4-8 ppm b) 2-8 ppm c) Not given	a) 6 ppm b) 5 ppm c) 6 ppm	a) Teeth from fetuses, 1972-1973, enamel samples b) Teeth from fetuses, 1972-1973, dentine samples c) Teeth from cases of stillbirth and neonatal death, 1972-1973 LEAD; NICKEL; ZINC; CADMIUM; MANGANESE; IRON; METALS; TRACE ELEMENTS; TEETH; INFANTS; FETUS; UNITED KINGDOM	Stack, M.V. Burkitt, A.J. Nickless, G. 1976

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
918 Adrenal gland		AAS GC	24	0.03-0.33 ug/g wet wt	0.14 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
919 Blood	Ingestion Placental	AAS	a) 34 b) 34	a) 7-48 ppb b) 12-50 ppb	a) 25 ppb b) 26 ppb	a) Maternal b) Neonatal The data indicate that prediction of neonatal hair Hg from maternal blood levels is possible. Study at Sumida Obstetric Hospital and Oshima Clinic of Toho University, Tokyo, Japan, July-November, 1974. URBAN AREAS; MERCURY; DIETS; METALS; JAPAN; FETUS; BLOOD; MILK; HAIR; METHYL MERCURY COMPOUNDS	Fujita, M. Takabatake, E. 1977

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Mercury
7439-97-6
Hg, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
920 Blood		AAS	a) 210 b) 65 c) 65	a) 0-298 ppb b) Not given c) Not given	a) 14.2 ppb b) 6.3 ppb c) 5.0 ppb	a) Whole blood b) Whole blood c) Plasma Method does not distinguish between organic and inorganic Hg. More than half that in whole blood was probably in organic form. Upper middle class suburban areas. No occupational exposure to Hg MERCURY; BLOOD; BLOOD PLASMA; METALS; URBAN AREAS; DISTRICT OF COLUMBIA; MARYLAND	Gowdy, J.M. Yates, R. Demers, P.K. Woodward, S.C. 1977
921 Blood	Ingestion		a) 43 b) 45 c) 43 d) 45	1-53 ng/ml b) 2-95 ng/ml c) 1-27 ng/ml d) 1-22 ng/ml	a) 15.0 ng/ml b) 26.7 ng/ml c) 6.8 ng/ml d) 7.5 ng/ml	a) Maternal, Northern Saskatchewan b) Fetal, Northern Saskatchewan c) Maternal, Southern Saskatchewan d) Fetal, Southern Saskatchewan Method of analysis not given. Samples from non-fish-eating women in Southern Saskatchewan and from fish-eating women in Northern Saskatchewan taken during September to December. Dietary (fish consumption) MERCURY; BLOOD; FETAL MEMBRANES; PREGNANCY; NEWBORN; FISHES; HEALTH HAZARDS; METALS; CANADA	Dennis, C.A.R. Fehr, F. 1975b
922 Blood		AAS	a) 100 b) 100	a) 0-8 ppb b) 0-6 ppb	a) 1.01 ppb b) 1.24 ppb	a) Maternal b) Umbilical cord 100 maternal-umbilical cord blood pairs, 38 placentae, and 32 breast milk samples from patients at the University of Iowa Hospitals. BLOOD; UMBILICAL CORD; LACTATION; BREAST; MILK; MERCURY; METALS; PLACENTA; IOWA	Pitkin, R.M. Bahns, J.A. Filer, L.J., Jr. Reynolds, W.A. 1976

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Mercury
7439-97-6
Hg,

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
923 Blood	Inhalation		a) 333 b) 328 c) 109 d) 108	a) 0.01-4.09 ug/100 ml b) 0.01-6.88 ug/100 ml c) 0.02-4.70 ug/100 ml d) 0.03-5.33 ug/100 ml	a) 1.12 ug/100 ml b) 1.36 ug/100 ml c) 1.31 ug/100 ml d) 1.42 ug/100 ml	a) Nonsmokers, mothers b) Newborn of nonsmokers c) Smokers, mothers d) Newborn of smokers Samples from 333 nonsmoking and 109 smoking European women and their newborn. The women lived in or near Brussels, Tournai, Leuven (Louvain), and Antwerp, Belgium representing rural, urban, and industrial areas. BLOOD; INFANTS; SMOKING; LEAD; MERCURY; CADMIUM; METALS; CARBON INORGANIC COMPOUNDS; COMPARATIVE EVALUATIONS; RURAL AREAS; URBAN AREAS; INDUSTRIAL AREAS; BELGIUM; PLACENTA; UMBILICAL CORD	Buchet, J.P. Roels, H. Hubermont, G. Lauwerys, R. 1978
924 Blood	Inhalation Ingestion		a) 497 b) 497 c) 468 d) 468 e) 29 f) 29	a) 0.01-8.7 ug/100 ml b) 0.01-7.05 ug/100 ml c) 0.01-4.7 ug/100 ml d) 0.01-6.88 ug/100 ml e) 0.13-3.95 ug/100 ml f) 0.12-7.05 ug/100 ml	a) 1.26 ug/100 ml b) 1.42 ug/100 ml c) 1.24 ug/100 ml d) 1.38 ug/100 ml e) 1.64 ug/100 ml f) 1.97 ug/100 ml	a) All women b) All newborn c) European women d) European newborn e) Afro-Asian women, aged 18-40 yr, mean 26 yr f) Afro-Asian newborn Samples taken at delivery from mothers by venipuncture and from newborn at the umbilical cord. The women lived in areas of Belgium (Antwerp, Brussels, Louvain, Tournai and Vilvoorde) with various degrees of industrialization and urbanization. BLOOD; ADULTS; INFANTS; LEAD; MERCURY; CADMIUM; CARBON INORGANIC COMPOUNDS; METALS; BELGIUM; COMPARATIVE EVALUATIONS; UMBILICAL CORD; PLACENTA	Lauwerys, R. Buchet, J.P. Roels, H. Hubermont, G. 1978

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
925 Blood		AAS	a) 100 b) 90	a) 0.5-2.05 ug/100 ml b) 0.3-5.7 ug/100 ml	a) 0.953 ug/100 ml b) 1.43 ug/100 ml	a) Ann Arbor population b) Yanomamo population 100 blood donors, 18-58 yr old, from Ann Arbor, Michigan. 137 Yanomamo Indians from Venezuela. BLOOD; URINE; HAIR; VENEZUELA; MERCURY; CADMIUM; LEAD; COPPER; METALS; MICHIGAN	Hecker, L.H. Allen, M.E. Dinman, B.D. Neel, J.V. 1974
926 Blood		NA	50	0.003-0.017 ppm wet wt	0.008 ppm wet wt	Erythrocytes Blood obtained from healthy volunteers ranging in age from 16-34 years. Individuals had lived for at least 9 months of the year for the past 5 years within a 60 mile radius of Buffalo, NY. BLOOD; URINE; MERCURY; BRAIN; CEREBELLUM; CEREBRAL CORTEX; ERYTHROCYTES; MUSCLES; CADAVERS; SWITZERLAND; METALS; AGE; CHILDREN; AUTOPSIES; NEW YORK	Massaro, E.J. Yaffe, S.J. Thomas, C.C., Jr. 1974

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
927 Blood	Inhalation	AAS	a) 1 b) 1 c) 1 d) 1 e) 26 controls	a) 620-10 ng/ml b) 183-10 ng/ml c) 277-26 ng/ml d) 540-31 ng/ml e) Not given	a) Not given b) Not given c) Not given d) Not given e) less than 20 ng/ml	a) Patient 1, 2/11-10/12/74 b) Patient 2, 2/11- 10/12/74 c) Patient 3, 2/11-8/23/74 d) Patient 8, 2/11- 8/23/74 e) Controls Values given for other exposed individuals Samples from three teenage girls and one 30 year old female living in a trailer park park in Mississippi. Controls were unexposed inhabitants of the trailer park and healthy adults from the county. Symptoms of drowsiness, nervousness, burning eyes, painful mouth, erythematous rash, resting tremor, metallic taste, gastrointestinal upset, excessive perspiration, chronic cough, loss of hair. Electroencephalograms showed paroxysmal occipital single and multiple spikes and high voltage slow waves. Metallic mercury spilled on rugs. MERCURY; METALS; CASE HISTORIES; GASTROINTESTINAL SYSTEM; NEUROLOGIC MANIFESTATIONS; DERMATITIS; ADOLESCENTS; MISSISSIPPI; BLOOD; URINE	Sexton, D.J. Powell, K.E. Liddle, J.A. Sarek, A.L. Smith, J.C. Clarkson, T.W. 1978

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Mercury
7439-97-6
Hg.

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
928 Blood	Ingestion	AAS	a) 18 b) 10 c) 9	a) 67-2660 ng/ml b) 75-3982 ng/ml c) 262-3700 ng/ml	a) 822.11 ng/ml b) 1852.70 ng/ml c) 1746.89 ng/ml	a) lactating females b) Nonlactating females c) Males Samples from lactating females (mean age of 29 years), non-lactating females (mean age of 27 years), and males (mean age of 25 years) in Iraq. a) 42 days b) 79 days c) 68 days Ingestion of fungicide-treated wheat, Methylmercury. BLOOD; METHYL MERCURY COMPOUNDS; FOODS; FOOD CONTAMINATION; LACTATION; MERCURY; POPULATION EXPOSURE; METALS; PESTICIDES; FUNGICIDES; IRAQ	Greenwood, M.R. Clarkson, T.W. Doherty, R.A. Gates, A.H. Amin-Zaki, L. Elhassani, S. Majeed, M.A. 1978
929 Blood	Ingestion Placental	AAS	14	a) 7-48 ppb b) 12-50 ppb	a) 25 ppb b) 26 ppb	a) Maternal b) Neonatal The data indicate that prediction of neonatal hair levels of Hg from maternal blood levels is possible. Study at Sumida Obstetric Hospital and Oshima Clinic of Toho University, Tokyo, Japan, July - November, 1974. Fish used for food URBAN AREAS; MERCURY; METHYL MERCURY COMPOUNDS; DIETS; METALS; JAPAN; FETUS; BLOOD; MILK; HAIR	Fujita, M. Takabatake, E. 1977

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
930 Blood		AAS	a) 77 b) 65	a) Not given b) Not given	a) 8.56 ug/100 ml b) 2.49 ug/100 ml	a) Exposed - 6 plant groups b) Controls Employees in chloralkali and magnetic materials manufacturing plants. Neurological abnormalities include impaired judgment, eyelid fasciculations, hyperactive deep-tendon reflexes, and dermatographia. Increased frequency of forearm tremor, increased bandwidth of the surface EMG, decreased speed of hand and foot tapping, varied eye-hand coordination. INDUSTRIAL PLANTS; NEUROLOGIC MANIFESTATIONS; BLOOD; URINE; MERCURY; OCCUPATIONAL HAZARDS; NEUROMUSCULAR DISEASES; METALS	Miller, J.M. Chaffin, D.B. Smith, R.G. 1975
931 Blood			1	Not applicable	83 ug/dl	Mercurochrome therapy of infected omphalocele. Post-mortem measurement. Black male infant with infected omphalocele. Febrile reaction, extensive skin lesions. Cardiac arrest. Calcium deposits in kidney epithelial cells. Mercurochrome therapy UMBILICAL CORD; INFECTION; INFANTS; MERCURY; METALS; METAL POISONING; BRAIN; BLOOD; KIDNEYS; LIVER; BIOACCUMULATION	Yeh, T-F Pildes, R.S. Firor, H.V. Szanto, P.B. 1978

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Mercury
7439-97-6
Hg, AtW 200.59, MP -38.87 C, BP 356.72 C, VP 2X10(E-3) mm Hg at 25 C, 100 mm Hg at 260 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
932 Blood		AAS GC	19	0.016-0.11 ug/g wet wt	0.059 wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
933 Blood	Ingestion	AAS	a) 1 b) 1 c) 1 d) 1	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) 15.0 ppm b) 15.5 ppm c) 0.011 ppm d) 0.009 ppm	a) Estimated daily intake of Hg was 6.7 mg b) Estimated daily intake of Hg was 6.7 mg c) Control d) Control 40 yr old female (a) and 45 yr old male (b) who died of Hg poisoning, and two males (ages 25 and 60) who were accident victims Food contamination METALS; MERCURY; CASE HISTORIES; IRAQ; BRAIN; BLOOD; HEART; LIVER; LUNGS; OVARIES; TESTES; KIDNEYS; SPLEEN	Hilmy, M.I. Rahim, S.A. Abbas, A.H. 1976

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Mercury
7439-97-6
Hg, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
934 Blood, cells		Photometry	a) 47 b) 11	a) 35-210 ng/g b) 5-16 ng/g	a) Not given b) Not given	a) Residents of Kuchinoshima b) Residents of Oahu Blood samples from inhabitants of 3 Japanese islands and Americans of Japanese ancestry living on Oahu Island. Hair from inhabitants of 6 Japanese islands and Americans of Japanese ancestry living on Oahu Island (all sampled in summer). Dietary consumption of fish ERYTHROCYTES; HAIR; MERCURY INORGANIC COMPOUNDS; MERCURY ORGANIC COMPOUNDS; METALS; FISHES; JAPAN	Suzuki, T. Takemoto, T. Kashiwazaki, H. Togo, M. Toyokawa, H. Miyama, T. 1976
935 Blood, cells	Ingestion	AAS	76	a) Not given b) Not given c) Not given d) Not given	a) 33.5 ng/ml b) 60.2 ng/ml c) 8.9 ng/ml d) 10.8 ng/ml	a) Maternal erythrocytes, coastal area b) Infant erythrocytes, coastal area c) Maternal erythrocytes, urban area d) Infant erythrocytes, urban area Samples from 38 maternal-infant pairs from Anchorage and the Yukon-Kuskokwim Delta hospitalized for childbirth. Involvement of the newborn with mercury not evident in weight or vital signs. Diet (Ingestion of seal meat and oil, fish, shorebirds) MERCURY; NEWBORN; PREGNANCY; PLACENTA; METALS; FOODS; FISHES; SEALS; BLOOD PLASMA; ERYTHROCYTES; MILK; HAIR; INFANTS; ALASKA; DIETS; BIRDS	Galster, W.A. 1976

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Mercury
7439-97-6
Hg, MW 200.59, MP -38.87 C, BP 356.72 C, VP 2X10(E-3) mm Hg at 25 C, 100 mm Hg at 260 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
936 Blood, plasma	Ingestion	AAS	76	a) Not given b) Not given c) Not given d) Not given	a) 5.8 ng/ml b) 4.5 ng/ml c) 2.6 ng/ml d) 3.3 ng/ml	a) Maternal plasma, coastal area b) Infant plasma, coastal area c) Maternal plasma, urban area d) Infant plasma, urban area Samples from 38 maternal-infant pairs from Anchorage and the Yukon-Kuskokwim Delta hospitalized for childbirth. Involvement of the newborn with mercury not evident in weight or vital signs. Diet (Ingestion of seal meat and oil, fish, shorebirds) MERCURY; NEWBORN; PREGNANCY; PLACENTA; METALS; FOODS; FISHES; SEALS; BLOOD PLASMA; ERYTHROCYTES; MILK; HAIR; INFANTS; ALASKA; DIETS; BIRDS	Galster, W.A. 1976

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Hg, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
937 Blood, whole	Ingestion	AAS	a) 104 b) 48 c) 88 d) 439	a) 1-42 ng/ml b) 1-21 ng/ml c) 1-20 ng/ml d) 1-23 ng/ml	a) 10.6 ng/ml b) 7.6 ng/ml c) 6.9 ng/ml d) 5.8 ng/ml	a) Recent freshwater fish consumption, native resident b) Recent freshwater fish consumption, non-native resident c) No recent freshwater fish consumption, native resident d) No recent freshwater fish consumption, non-native resident Hg elevated in fishing season and highest in residents of Northeastern Saskatchewan where the primary source is geological, not industrial. Samples from 679 patients in Saskatchewan, Canada: 28% of native origin, 91% residents of northern part of the province. Samples collected in April, May, June, September, October, November of 1972. Dietary (fish consumption) MERCURY; BLOOD; POPULATION EXPOSURE; FOOD CONTAMINATION; FISHES; CANADA; METALS	Dennis, C.A.B. Fehr, F. 1975a
938 Blood, whole	Inhalation Ingestion	NA	a) 7 b) 13 c) 12	a) 37-123 ng/ml b) <5-36 ng/ml c) <5	a) 59 ng/ml b) 3 samples above detection level of 5 ng/ml c) <5	a) Heavy occupational exposure b) Random exposure c) Controls 7 men, 29-54 yr working near Hg furnaces. 13 male miners, 40-54 yr working at extraction of Hg ore. 12 controls, relatives of above. Mines Furnaces MERCURY; SELENIUM; POPULATION EXPOSURE; ITALY; OCCUPATIONAL HAZARDS; BLOOD; URINE; HAIR; BIOACCUMULATION; MINERAL DEPOSITS; METALS; METABOLISM; AUTOPSIES	Rossi, L.C. Clemente, G.F. Santaroni, G. 1976

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
939 Blood, whole		AAS	a) 8 b) 7 c) 3 d) 3	a) <1-<1 ug/l b) 5.5-13 ug/l c) <0.1-8.0 ug/l d) 2.5-8.4 ug/l	a) <1 ug/l b) 8.8 ug/l c) Not given d) 4.8 ug/l	a) Exposed persons from university b) Exposed to phenyl-Hg c) Exposed to metallic Hg d) Controls Correlation between blood and urine Hg and total amount of cells with chromosomal aberrations. 21 men and 7 women occupationally exposed to various Hg compounds. 10 persons with Hg intoxication, and other 18 with low exposure. MERCURY; OCCUPATIONAL HAZARDS; BLOOD; URINE; BIOACCUMULATION; CHROMOSOMAL ABERRATIONS; LYMPHOCYTES; METALS	Verschaeve, L. Kirsch-Volders, M. Susanne, C. Groetenbriel, C. Haustermans, R. Lecomte, A. Roossels, D. 1976
940 Blood, whole		AAS	a) 80 b) 39 c) 41	a) 0.004-0.062 mg/kg b) Not given c) Not given	a) 0.020 mg/kg b) 0.024 mg/kg c) 0.017 mg/kg	a) Representative sample of urban and city residents b) Urban residents c) Rural residents Correlation between Hg level and number of fish dinners eaten per week, as well as between Hg level and number of Hg amalgam fillings. Other data available. 80 subjects from the Province of Rome (39 from city, 41 from province) with no occupational exposure and with normal food habits. MERCURY; METALS; ITALY; BLOOD; HAIR; FISHES; URBAN AREAS; RURAL AREAS	Pallotti, G. Bencivenga, R. Simonetti, T. 1979

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Hg, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
941 Bone			1	Not applicable	1.8 ug/g	Autopsy sample of bone marrow. Samples and autopsy samples from 3 year old Caucasian girl. Symptoms of fever, pain, loss of weight, edema, decreased appetite. Lack of information as to accidental exposure delayed diagnosis 2 weeks. Neutropenia, acrodynia with exfoliative rash, lower nephron nephrosis, encephalitis, hepatitis, hyperglobulinemia, hemolytic anemia, otitis media, recurrent pneumonia. Terminal events were bronchopneumonia, appendicitis, peritonitis, sepsis. Acrodynia from elemental mercury poisoning is rare. Grade school laboratory CASE HISTORIES; MERCURY; CHILDREN; METALS; LIVER; MUSCLES; SPLEEN; LUNGS; BRAIN; BONES; KIDNEYS; URINE	Johnson, K.G. Evanger, A. Van Meter, W. 1978
942 Bone			a) 1 b) 1 c) 1	a) Not applicable b) Not applicable c) Not applicable	a) 20 ng/g wet wt b) <20 ng/g wet wt c) <20 ng/g wet wt	a) Exposed 17 yr b) Exposed 30 yr c) Exposed 37 yr Autopsy samples from 3 miners of the Amiata Mountain area. MERCURY; SELENIUM; POPULATION EXPOSURE; ITALY; OCCUPATIONAL HAZARDS; BLOOD; URINE; HAIR; BIOACCUMULATION; MINERAL DEPOSITS; METALS; METABOLISM; AUTOPSIES	Rossi, L.C. Clemente, G.F. Santaroni, G. 1976

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Mercury
7439-97-6
Hg, MW 200.59, MP -38.87 C, BP 356.72 C, VP 2E10(E-3) mm Hg at 25 C, 760 mm Hg at 750 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
943 Brain		AAS	14	a) 0.008-0.870 ug/g wet wt b) 0.006-0.965 ug/g wet wt	a) 0.081 ug/g wet wt b) 0.132 ug/g wet wt	a) 61 samples-cerebrum b) 60 samples-cerebellum Data do not indicate proportion of Hg burden in biologically active form. None of the cases had evidence of short-term mercurialism. Four patients had a chronic liver lesion that could conceivably diminish excretion of mercury. MERCURY; METALS; AUTOPSIES; KIDNEYS; LIVER; HEART; LUNGS; SPLEEN; PANCREAS; BRAIN; MUSCLES; SPINAL CORD; SKIN; URBAN AREAS; RURAL AREAS; POPULATION EXPOSURE; BIOINDICATORS; AGE; WASHINGTON	Mottet, N.K. Body, R.L. 1974
944 Brain		NA	a) 6 b) 9 c) 5	a) 0.18-1.50 ppm fresh wt b) 0.002-0.11 ppm fresh wt c) 0.001-0.007 ppm fresh wt	a) 0.70 ppm fresh wt b) 0.038 ppm fresh wt c) 0.0042 ppm fresh wt	a) Mercury mine workers b) Idrija population c) Controls Post-mortem samples from 3 groups of people: workers in the mercury mine at Idrija, Slovenia, inhabitants of the town of Idrija, and a control group with no known exposure. MERCURY; SELENIUM; OCCUPATIONAL HAZARDS; URBAN AREAS; MINING; AUTOPSIES; THYROID GLANDS; PITUITARY GLAND; KIDNEYS; LIVER; LUNGS; BRAIN; YUGOSLAVIA; METALS; COMPARATIVE EVALUATIONS	Kosta, L. Byrne, A.R. Zelenko, V. 1975

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
945 Brain		NA	a) 100 b) 50	a) 0.08-2.59 ppm wet wt b) 0.04-1.65 ppm wet wt	a) 0.358 ppm wet wt b) 0.347 ppm wet wt	a) Adult cadavers (15-91 years) b) Sub-adult cadavers (0-14 years) Cerebellar cortex Data available for other brain areas with means ranging from 0.070 ppm-0.34' ppm. Samples from cadavers ranging in age at time of death from neonates to 91 yr. 18 brain samples from children (neonates to 4 months) from the Kinderspital, Zurich, Switzerland. BLOOD; URINE; MERCURY; BRAIN; CEREBELLUM; CEREBRAL CORTEX; ERYTHROCYTES; MUSCLES; CADAVERS; SWITZERLAND; METALS; AGE; CHILDREN; AUTOPSIES; NEW YORK	Massaro, E.J. Yaffe, S.J. Thomas, C.C., Jr. 1974
946 Brain			1	a) Not applicable b) Not applicable	a) 1.28 ug/g b) 1.36 ug/g	a) Autopsy sample b) Autopsy sample 3 year old Caucasian girl. Symptoms of fever, pain, loss of weight, edema, decreased appetite. Lack of information as to accidental exposure delayed diagnosis 2 weeks. Neutropenia, acrodynia with exfoliative rash, lower nephron nephrosis, encephalitis, hepatitis, hyperglobulinemia, hemolytic anemia, otitis media, recurrent pneumonia. Terminal events were bronchopneumonia, appendicitis, peritonitis, sepsis. Acrodynia from elemental mercury poisoning is rare. Grade school laboratory CASE HISTORIES; MERCURY; CHILDREN; METALS; LIVER; MUSCLES; SPLEEN; LUNGS; BRAIN; BONES; KIDNEYS; URINE	Johnson, K.G. Ewanger, A. Van Meter, W. 1978

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Mercury
7439-97-6
Hg, MW 200.59, MP -38.87 C, BP 356.72 C, VP 2X10(E-3) mm Hg at 25 C, 100 mm Hg at 240 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
947 Brain			a) 1 b) 1 c) 1	a) Not applicable b) Not applicable c) Not applicable	a) 80 ng/g wet wt b) 196 ng/g wet wt c) 27 ng/g wet wt	a) Exposed 17 yr b) Exposed 30 yr c) Exposed 37 yr Autopsy samples from 3 miners of the Amiata Mountain area. MERCURY; SELENIUM; POPULATION EXPOSURE; ITALY; OCCUPATIONAL HAZARDS; BLOOD; URINE; HAIR; BIOACCUMULATION; MINERAL DEPOSITS; METALS; METABOLISM; AUTOPSIES	Rossi, L.C. Clemente, G.F. Santaroni, G. 1976
948 Brain			1	Not applicable	27.5 ug/dl	Mercurochrome therapy of infected omphalocele. Post-mortem measurement. Black male infant with infected omphalocele. Febrile reaction, extensive skin lesions. Cardiac arrest. Calcium deposits in kidney epithelial cells. Mercurochrome therapy UMBILICAL CORD; INFECTION; INFANTS; MERCURY; METALS; METAL POISONING; BRAIN; BLOOD; KIDNEYS; LIVER; BIOACCUMULATION	Yeh, T-F Pildes, R.S. Firor, H.V. Szanto, P.B. 1978

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
949 Brain	Ingestion	AAS	a) 99 b) 38	a) Not given b) Not given	a) 0.142 ug/g b) 0.124 ug/g	a) Males b) Females Biological half-times (BHT) obtained by observation of accumulation from 0-90 years and calculation by a mathematical model. Autopsy samples from Tokyo accident victims with no known occupational exposure. 22 years CADMIUM; MERCURY; LEAD; METALS; AUTOPSIES; BIOACCUMULATION; AGE; SEX; FOODS; JAPAN	Sugita, M. 1978
950 Brain		AAS GC	a) 20 b) 21	a) 0.039-0.17 ug/g wet wt b) 0.048-0.23 ug/g wet wt	a) 0.10 ug/g wet wt b) 0.10 ug/g wet wt	a) Cerebrum b) Cerebellum Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Mercury
7439-97-6
Hg, [illegible] at 760 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
951 Brain	Ingestion	AAS	a) 1 b) 1 c) 1 d) 1 e) 1 f) 1 g) 1 h) 1	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable g) Not applicable h) Not applicable	a) 1.8 ppm b) 4.8 ppm c) 0.029 ppm d) 0.038 ppm e) 2.7 ppm f) 5.2 ppm g) 0.024 ppm h) 0.028 ppm	a) Estimated daily intake of Hg was 6.7 mg b) Estimated daily intake of Hg was 6.7 mg c) Control d) Control e) Estimated daily intake 6.7 mg f) Estimated daily intake 6.7 mg g) Control h) Control Tissue levels in cerebrel cortex (a-d) and in cerebellar cortex (e-h). 40 yr old female (a) and 45 yr old male (b) who died of Hg poisoning, and two males (ages 25 and 60) who were accident victims. Food contamination METALS; MERCURY; CASE HISTORIES; IRAQ; BRAIN; BLOOD; HEART; LIVER; LUNGS; OVARIES; TESTES; KIDNEYS; SPLEEN	Hilmy, M.I. Rahim, S.A. Abbas, A.H. 1976
952 Hair		Photometry		a) 1.9-48.8 ug/g b) 1.8-4.3 ug/g	a) Not given b) Not given	a) 189 residents of Kuchinoshima b) 13 residents of Oahu Blood samples from inhabitants of 3 Japanese islands and Americans of Japanese ancestry living on Oahu Island. Hair from inhabitants of 6 Japanese islands and Americans of Japanese ancestry living on Oahu Island (all sampled in summer). Dietary consumption of fish ERYTHROCYTES; HAIR; MERCURY INORGANIC COMPOUNDS; MERCURY ORGANIC COMPOUNDS; METALS; FISHES; JAPAN	Suzuki, T. Takemoto, T. Kashiwazaki, H. Togo, M. Toyokawa, H. Miyama, T. 1976

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Hg, [illegible] at 760 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
953 Hair	Ingestion Placental	AAS	a) 34 b) 34	a) 1.2-7.3 ppb b) 2.0-7.9 ppb	a) 3.3 ppm b) 4.3 ppm	a) Maternal b) Neonatal The data indicate that prediction of neonatal hair Hg from maternal blood levels is possible. Study at Sumida Obstetric Hospital and Oshima Clinic of Toho University, Tokyo, Japan, July-November, 1974. URBAN AREAS; MERCURY; DIETS; METALS; JAPAN; FETUS; BLOOD; MILK; HAIR; METHYL MERCURY COMPOUNDS	Fujita, M. Takabatake, E. 1977
958 Hair	Ingestion	AAS	76	a) Not given b) Not given	a) 0.257 ug/g b) 0.045 ug/g	a) Coastal area b) Urban area Samples from 38 maternal-infant pairs from Anchorage and the Yukon - Kuskokwim Delta hospitalized for childbirth. Effects on newborn weight or vital signs not evident. Diet (Ingestion of seal meat and oil, fish, shorebirds) MERCURY; NEWBORN; PREGNANCY; PLACENTA; METALS; FOODS; FISHES; SEALS; BLOOD PLASMA; ERYTHROCYTES; MILK; HAIR; INFANTS; ALASKA; DIETS; BIRDS	Galster, W.A. 1976

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Mercury
7439-97-6
Hg, MW 200.59, MP -38.87 C, BP 356.72 C, VP 2X10(E-3) mm Hg at 25 C, 100 mm Hg at 260 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
955 Hair		AAS	a) 69 b) 76 Numbers of samples	a) 538-12,000 ppb b) 190-6,144 ppb	a) 2162 ppb b) 1212 ppb	a) Women b) Men Average Hg in women's hair significantly higher than in men. No significant differences between levels from people residing on farms vs towns, nor between age groups. Hair samples from 10 men and 10 women from 4 areas of North Dakota. Donors between 25-35 yrs of age had resided in the area for at least 3 successive years. HAIR; MERCURY; SOILS; NORTH DAKOTA; RURAL AREAS; URBAN AREAS; MILK; MUSCLES; LIVER; MEAT; METALS; AGE; ANIMAL POPULATIONS	Sell, J.L. Deitz, F.D. Buchanan, M.L. 1975
956 Hair		AAS	24	0.3-1.4 ug/g	1.0 ug/g	Yanomamo Indians Unacculturated population consisted of Yanomamo Indians of southern Venezuela. BLOOD; URINE; HAIR; VENEZUELA; MERCURY; CADMIUM; LEAD; COPPER; METALS; MICHIGAN	Hecker, L.H. Allen, H.E. Dinman, B.D. Neel, J.V. 1974

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
957 Hair	Inhalation	AAS	a) 11 b) 15	a) 0.7-114 ug/g b) Less than 5 ug/g	a) Not given b) Not given	a) Exposed individuals b) Controls Samples from 11 exposed individuals living in a trailer park in Mississippi. Controls were unexposed neighbors and healthy adults in same county. Symptoms of drowsiness, nervousness, burning eyes, painful mouth, erythematous rash, resting tremor, metallic taste, gastrointestinal upset, excessive perspiration, chronic cough, loss of hair. Electroencephalograms showed paroxysmal occipital single and multiple spikes and high voltage slow waves. Metallic mercury spilled on rugs. MERCURY; METALS; CASE HISTORIES; GASTROINTESTINAL SYSTEM; NEUROLOGIC MANIFESTATIONS; DERMATITIS; ADOLESCENTS	Sexton, D.J. Powell, K.E. Liddle, J.A. Smrek, A.L. Smith, J.C. Clarkson, T.W. 1978
958 Hair	Ingestion Placental	AAS	34	a) 1.2-7.3 ppm b) 2.0-7.9 ppm	a) 3.3 ppm b) 4.3 ppm	a) Maternal b) Neonatal The data indicate that prediction of neonatal hair levels of Hg from maternal blood levels is possible. Study at Sumida Obstetric Hospital and Oshima Clinic of Toho University, Tokyo, Japan, July - November, 1974. Fish used for food URBAN AREAS; MERCURY; METHYL MERCURY COMPOUNDS; DIETS; METALS; JAPAN; FETUS; BLOOD; MILK; HAIR	Fujita, M. Takabatake, E. 1977

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Mercury
7439-97-6
Hg, AW 200.59, MP -38.87 C, BP 356.72 C, VP 2X10(E-3) mm Hg at 25 C, 709 mm Hg at 240 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
959 Hair	Inhalation Ingestion	NA	a) 7 b) 13 c) 12	a) 7.6-50.0 ug/g b) 1.4-8.8 ug/g c) 0.8-4.5 ug/g	a) 25 ug/g b) 4 ug/g c) 1.8 ug/g	a) Heavy occupational exposure b) Random exposure c) Controls 7 men, 29-54 yr working near Hg furnaces. 13 male miners, 40-54 yr working at extraction of Hg ore. 12 controls, relatives of above. Mines Furnaces MERCURY; SELENIUM; POPULATION EXPOSURE; ITALY; OCCUPATIONAL HAZARDS; BLOOD; URINE; HAIR; BIOACCUMULATION; MINERAL DEPOSITS; METALS; METABOLISM; AUTOPSIES	Rossi, L.C. Clemente, G.F. Santaroni, G. 1976
960 Hair		AAS	a) 19 b) 23 c) 18 d) 13	a) Not given b) Not given c) 2.27-28.17 ppm d) 5.9-65.7 ppm	a) 0.83 ppm b) 2.10 ppm c) 9.16 ppm d) 23.6 ppm	a) Vegetarians b) Nonvegetarians c) No refinery workers d) Minamata patients (male) Values are for total Hg.. Two groups of Indians in Bombay - vegetarians and nonvegetarians. Workers in a molybdenum refinery shop, exposed to Hg vapor. Minamata disease patients (13 males and 9 females), 5-9.9 yr after onset of the disease. Food, Hg vapor from electrodes MERCURY; METHYL MERCURY COMPOUNDS; HAIR; FISHES; DIETS; OCCUPATIONAL HAZARDS; MOLYBDENUM; NERVOUS SYSTEM DISEASES; METALS; JAPAN; INDIA	Yamaguchi, S. Matsumoto, H. Kaku, S. Tateishi, M. Shiramizu, M. 1975

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
961 Hair	Ingestion	AAS	a) 482 b) 314	a) Not given b) Not given	a) 5.37 ug/g b) 4.26 ug/g	a) Males b) Females Biological half-times (BHT) obtained by observation of accumulation from 0-9+ years and calculation by a mathematical model. Autopsy samples from Tokyo accident victims with no known occupational exposure. CADMIUM; MERCURY; LEAD; METALS; AUTOPSIES; BIOACCUMULATION; AGE; SEX; FOODS; JAPAN	Sugita, M. 1978
962 Hair		AAS GC	29	1.4-15.0 ug/g wet wt	4.1 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 35 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Hg, MW 200.59, MP -38.87 C, BP 356.72 C, VP 2X10(E-3) mm Hg at 25 C, 100 mm Hg at 246 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
963 Hair		AAS	a) 18 b) 20	a) Not given b) <0.05-0.69 ppm	a) 0.48 ppm b) 0.215 ppm	a) Rural Irish children, close to zinc and copper mine b) Urban Irish children, controls 21 children (18 male, 3 female, aged 5-12 yr) whose school was close to an open-cast mine in County Tipperary, and 20 Cork City children (18 male, 2 female, same age group). ZINC; MERCURY; ARSENIC; LEAD; COPPER; METALS; CHILDREN; HAIR; UNITED KINGDOM; INDUSTRIAL POLLUTION	Corridan, J.P. 1974
964 Hair		AAS	3	0-649 ppm	Not applicable	Levels in segments of hair from 3 women who ate bread contaminated with methyl mercury for 1-3 mo. METALS; MERCURY; INTEGUMENT; HAIR; FOOD CONTAMINATION	Giovanoli-Jakubczak, T. Berg, G.G. 1974
965 Hair		AAS	a) 80 b) 39 c) 41	a) 0.10-3.60 mg/kg b) Not given c) Not given	a) 0.51 mg/kg b) 0.56 mg/kg c) 0.46 mg/kg	a) Representative sample of urban and rural residents b) Urban residents c) Rural residents Other data available. 80 subjects from the Province of Rome (39 from city, 41 from province) with no occupational exposure and with normal food habits. MERCURY; METALS; ITALY; BLOOD; HAIR; FISHES; URBAN AREAS; RURAL AREAS	Pallotti, G. Beacivenga, B. Simonetti, T. 1979

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
966 Heart		AAS	74	0.012-0.704 ug/g wet wt	0.102 ug/g wet wt	57 samples Data do not indicate proportions of Hg burden in biologically active form. Autopsies done at University of Washington and representing 60% urban and 40% rural population. Ages ranged from 26 weeks gestation to 88 years. None of the cases had evidence of short-term mercurialism. Four patients had a chronic liver lesion that could conceivably diminish excretion of mercury. MERCURY; METALS; AUTOPSIES; KIDNEYS; LIVER; HEART; LUNGS; SPLEEN; PANCREAS; BRAIN; MUSCLES; SPINAL CORD; SKIN; URBAN AREAS; RURAL AREAS; POPULATION EXPOSURE; BIOINDICATORS; AGE; WASHINGTON	Mottet, N.K. Body, R.L. 1974
967 Heart		AAS GC	29	0.023-0.13 ug/g wet wt	0.069 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayatawa, K. Shibata, T. Kitamura, S. 1975

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Mercury
7439-97-6
Hg, ATW 200.59, MP -38.87 C, BP 356.72 C, VP 2X10(E-3) mm Hg at 25 C, 100 mm Hg at 260 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
968 Heart	Ingestion	AAS	a) 1 b) 1 c) 1 d) 1	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) 2.9 ppm b) 3.7 ppm c) 0.013 ppm d) 0.020 ppm	a) Estimated daily intake of Hg was 6.7 mg b) Estimated daily intake of Hg was 6.7 mg c) Control d) Control 40 yr old female (a) and 454 yr old male (b) who died of Hg poisoning, and two males (ages 25 and 66) who were accident victims. Food contamination METALS; MERCURY; CASE HISTORIES; IRAQ; BRAIN; BLOOD; HEART; LIVER; LUNGS; OVARIES; TESTES; KIDNEYS; SPLEEN	Hilmy, M.I. Rahim, S.A. Abbas, A.H. 1976
969 Intestine		AAS GC	a) 25 b) 27	a) 0.024-0.19 ug/g wet wt b) 0.032-0.16 ug/g wet wt	a) 0.069 ug/g wet wt b) 0.083 ug/g wet wt	a) Small intestine b) Large intestine Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Mercury
7439-97-6
Hg, [illegible] at 25°C, [illegible] at 25°C, [illegible] at 25°C, [illegible]
at 760°C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
970 Kidney		AAS	67	0.075-3.36 ppm, wet wt	0.762 ppm, wet wt	Data could not be correlated with age, sex, or place of residence at death. Data were not available to eliminate the possibility of unusual exposure to Hg. Lung samples from autopsies of hospital cases with histories of various maladies: 9 cases from urban area (Denver) and 38 cases from a single-industry community and surrounding rural area (Los Alamos, NM). Liver and kidney samples obtained from 20 subjects, equally divided between the two areas LUNGS; LIVER; KIDNEYS; AUTOPSIES; MERCURY; METALS; POPULATION EXPOSURE; URBAN AREAS; RURAL AREAS; COLORADO; NEW MEXICO	Stein, P.C. Campbell, E.E. Moss, W.D. Trujillo, P. 1974
971 Kidney		AAS	14	0.006-6.40 ug/g wet wt	0.757 ug/g wet wt	95 samples Data do not indicate proportion of Hg burden in biologically active form. Autopsies done at University of Washington and representing 60% urban and 40% rural population. Ages ranged from 26 weeks gestation to 88 years. None of the cases had evidence of short-term mercurialism. Four patients had a chronic liver lesion that could conceivably diminish excretion of mercury. MERCURY; METALS; AUTOPSIES; KIDNEYS; LIVER; HEART; LUNGS; SPLEEN; PANCREAS; BRAIN; MUSCLES; SPINAL CORD; SKIN; URBAN AREAS; RURAL AREAS; POPULATION EXPOSURE; BIOINDICATORS; AGE; WASHINGTON	Mottet, N.K. Body, R.L. 1974

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
972 Kidney		NA	a) 8 b) 11 c) 7	a) 2.3-18.5 ppm fresh wt b) 0.03-4.0 ppm fresh wt c) 0.01-0.37 ppm fresh wt	a) 8.4 ppm fresh wt b) 0.66 ppm fresh wt c) 0.14 ppm fresh wt	a) Mercury mine workers b) Idrija population c) Controls Post-mortem samples from 3 groups of people: workers in the mercury mine at Idrija, Slovenia, inhabitants of the town of Idrija, and a control group with no known exposure. MERCURY; SELENIUM; OCCUPATIONAL HAZARDS; URBAN AREAS; MINING; AUTOPSIES; THYROID GLANDS; PITUITARY GLAND; KIDNEYS; LIVER; LUNGS; BRAIN; YUGOSLAVIA; METALS; COMPARATIVE EVALUATIONS	Kosta, L. Byrne, A.R. Zelenko, V. 1975
973 Kidney			1	a) Not applicable b) Not applicable	a) 14.3 ug/g b) 30.4 ug/g	a) Autopsy sample b) Autopsy sample Samples and autopsy samples from 3 year old Caucasian girl. Symptoms of fever, pain, loss of weight, edema, decreased appetite. Lack of information as to accidental exposure delayed diagnosis 2 weeks. Neutropenia, acrodynia with exfoliative rash, lower nephron nephrosis, encephalitis, hepatitis, hyperglobulinemia, hemolytic anemia, otitis media, recurrent pneumonia. Terminal events were bronchopneumonia, appendicitis, peritonitis, sepsis. Acrodynia from elemental mercury poisoning is rare. Grade school laboratory CASE HISTORIES; MERCURY; CHILDREN; METALS; LIVER; MUSCLES; SPLEEN; LUNGS; BRAIN; BONES; KIDNEYS; URINE	Johnson, K.G. Evanger, A. Van Meter, W. 1978

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
974 Kidney			a) 1 b) 1 c) 1	a) Not applicable b) Not applicable c) Not applicable	a) 240 ng/g wet wt b) 2,770 ng/g wet wt c) 3,000 ng/g wet wt	a) Exposed 17 yr b) Exposed 30 yr c) Exposed 37 yr Autopsy samples from 3 miners of the Amiata Mountain area. MERCURY; SELENIUM; POPULATION EXPOSURE; ITALY; OCCUPATIONAL HAZARDS; BLOOD; URINE; HAIR; BIOACCUMULATION; MINERAL DEPOSITS; METALS; METABOLISM; AUTOPSIES	Rossi, L.C. Clemente, G.F. Santaroni, G. 1976
975 Kidney			1	Not applicable	2'2 ug/41	Mercurochrome therapy of infected cephalocele. Post-aortem measurement. Black male infant with infected cephalocele. Febrile reaction, extensive skin lesions. Cardiac arrest. Calcium deposits in kidney epithelial cells. Mercurochrome therapy UMBILICAL CORD; INFECTION; INFANTS; MERCURY; METALS; METAL POISONING; BRAIN; BLOOD; KIDNEYS; LIVER; BIOACCUMULATION	Yeh, T-P Pildes, R.S. Firor, H.V. Szanto, P.B. 1978

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Mercury
7439-97-6
Hg, [illegible], [illegible] C, [illegible] C, [illegible] mm Hg at 25 C, 100 mm Hg at 260 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
976 Kidney		AAS GC	30	0.18-2.6 ug/g wet wt	1.1 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
977 Kidney	Ingestion	AAS	a) 1 b) 1 c) 1 d) 1	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) 8.0 ppm b) 9.1 ppm c) 0.131 ppm d) 0.126 ppm	a) Estimated daily intake of Hg was 6.7 mg b) Estimated daily intake of Hg was 6.7 mg c) Control d) Control 40 yr old female (a) and 45 yr old male (b) who died of Hg poisoning, and two males (ages 25 and 60) who were accident victims. Food contamination METALS; MERCURY; CASE HISTORIES; IRAQ; BRAIN; BLOOD; HEART; LIVER; LUNGS; OVARIES; TESTES; KIDNEYS; SPLEEN	Hilmy, M.I. Rahim, S.A. Abbas, A.H. 1976

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Mercury
7439-97-6
Hg, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
978 Liver	Inhalation	AAS	67	0.026-0.545 ppm, wet wt	0.172 ppm, wet wt	Data could not be correlated with age, sex, or place of residence at death. Data were not available to eliminate the possibility of unusual exposure to Hg. Lung samples from autopsies of hospital cases with histories of various maladies: 9 cases from urban area (Denver) and 38 cases from a single-industry community and surrounding rural area (Los Alamos, NM). Liver and kidney samples obtained from 20 subjects, equally divided between the two areas. LUNGS; LIVER; KIDNEYS; AUTOPSIES; MERCURY; METALS; POPULATION EXPOSURE; URBAN AREAS; RURAL AREAS; COLORADO; NEW MEXICO	Stein, P.C. Campbell, E.E. Moss, W.D. Trujillo, P. 1974
979 Liver		AAS	14	0.008-1.43 ug/g wet wt	0.250 ug/g wet wt	95 samples Data do not indicate proportion of Hg burden in biologically active form. Autopsies done at University of Washington and representing 60% urban and 40% rural population. Ages ranged from 26 weeks gestation to 88 years. None of the cases had evidence of short-term mercurialism. Four patients had a chronic liver lesion that could conceivably diminish excretion of mercury. MERCURY; METALS; AUTOPSIES; KIDNEYS; LIVER; HEART; LUNGS; SPLEEN; PANCREAS; BRAIN; MUSCLES; SPINAL CORD; SKIN; URBAN AREAS; RURAL AREAS; POPULATION EXPOSURE; BIOINDICATORS; AGE; WASHINGTON	Mottet, N.K. Body, R.I. 1974

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Hg, MW 200.59, MP -38.87 C, BP 356.72 C, VP 2X10(P-7) mm Hg at 25 C, 100 mm Hg at 260 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
980 Liver		NA	a) 8 b) 11 c) 8	a) 0.04-0.79 ppm fresh wt b) 0.02-0.21 ppm fresh wt c) 0.01-0.05 ppm fresh wt	a) 0.26 ppm fresh wt b) 0.107 ppm fresh wt c) 0.030 ppm fresh wt	a) Mercury mine workers b) Idrija population c) Controls Post-mortem samples from 3 groups of people: workers in the mercury mine at Idrija, Slovenia, inhabitants of the town of Idrija, and a control group with no known exposure. MERCURY; SELENIUM; OCCUPATIONAL HAZARDS; URBAN AREAS; MINING; AUTOPSIES; THYROID GLAND; PITUITARY GLAND; KIDNEYS; LIVER; LUNGS; BRAIN; YUGOSLAVIA; METALS; COMPARATIVE EVALUATIONS	Kosta, L. Byrne, A.R. Zelenko, V. 1975
981 Liver			1	Not applicable	3.91 ug/g	Autopsy sample Samples and autopsy samples from 3 year old Caucasian girl. Symptoms of fever, pain, loss of weight, edema, decreased appetite. Lack of information as to accidental exposure delayed diagnosis 2 weeks. Neutropenia, acrodynia with exfoliative rash, lower nephron nephrosis, encephalitis, hepatitis, hyperglobulinemia, hemolytic anemia, otitis media, recurrent pneumonia. Terminal events were bronchopneumonia, appendicitis, peritonitis, sepsis. Acrodynia from elemental mercury poisoning is rare. Grade school laboratory CASE HISTORIES; MERCURY; CHILDREN; METALS; LIVER; MUSCLES; SPLEEN; LUNGS; BRAIN; BONES; KIDNEYS; URINE	Johnson, K.G. Evanger, A. Van Meter, W. 1978

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
982 Liver			a) 1 b) 1 c) 1	a) Not applicable b) Not applicable c) Not applicable	a) 50 ng/g wet wt b) 992 ng/g wet wt c) 184 ng/g wet wt	a) Exposed 17 yr b) Exposed 30 yr c) Exposed 37 yr Autopsy samples from 3 miners of the Amiata Mountain area. MERCURY; SELENIUM; POPULATION EXPOSURE; ITALY; OCCUPATIONAL HAZARDS; BLOOD; URINE; HAIR; BIOACCUMULATION; MINERAL DEPOSITS; METALS; METABOLISM; AUTOPSIES	Rossi, L.C. Clemente, G.P. Santaroni, G. 1976
983 Liver			1	Not applicable	77 ug/dl	Mercurochrome therapy of infected omphalocele. Post-mortem measurement. Black male infant with infected omphalocele. Febrile reaction, extensive skin lesions. Cardiac arrest. Calcium deposits in kidney epithelial cells. Mercurochrome therapy UMBILICAL CORD; INFECTION; INFANTS; MERCURY; METALS; METAL POISONING; BRAIN; BLOOD; KIDNEYS; LIVER; BIOACCUMULATION; AGE	Yeh, T-F Pildes, R.S. Firor, H.V. Szanto, P.B. 1978

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
986 Liver		AAS GC	29	0.16-1.3 ug/g wet wt	0.17 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
985 Liver	Ingestion	AAS	a) 1 b) 1 c) 1 d) 1	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) 6.8 ppm b) 6.1 ppm c) 0.027 ppm d) 0.037 ppm	a) Estimated daily intake of Hg was 6.7 mg b) Estimated daily intake of Hg was 6.7 mg c) Control d) Control 40 yr old female (a) and 45 yr old male (b)who died of Hg poisoning, and two males (ages 25 and 60) who were accident victims. Food contamination METALS; MERCURY; CASE HISTORIES; IRAQ; BRAIN; BLOOD; HEART; LIVER; LUNGS; OVARIES; TESTES; KIDNEYS; SPLEEN	Hilmy, M.I. Bahia, S.A. Abbas, A.H. 1976

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Hg, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
986 Lung		AAS	67	0.007-1.5 ppm, wet wt	0.03 ppm, wet wt	Data could not be correlated with age, sex, or place of residence at death. Data were not available to eliminate the possibility of unusual exposure to Hg. Lung samples from autopsies of hospital cases with histories of various maladies: 9 cases from urban area (Denver) and 38 cases from a single-industry community and surrounding rural area (Los Alamos, NM). Liver and kidney samples obtained from 20 subjects, equally divided between the two areas. LUNGS; LIVER; KIDNEYS; AUTOPSIES; MERCURY; METALS; POPULATION EXPOSURE; URBAN AREAS; RURAL AREAS; COLORADO; NEW MEXICO	Stein, P.C. Campbell, E.E. Moss, W.D. Trujillo, P. 1974
987 Lung		AAS	14	0.0-2.763 ug/g wet wt	0.251 ug/g wet wt	77 samples Data do not indicate proportion of Hg burden in biologically active form. Autopsies done at University of Washington and representing 60% urban and 40% rural population. Ages ranged from 26 weeks gestation to 98 years. None of the cases had evidence of short-term mercurialism. Four patients had a chronic liver lesion that could conceivably diminish excretion of mercury. MERCURY; METALS; AUTOPSIES; KIDNEYS; LIVER; HEART; LUNGS; SPLEEN; PANCREAS; BRAIN; MUSCLES; SPINAL CORD; SKIN; URBAN AREAS; RURAL AREAS; POPULATION EXPOSURE; BIOINDICATORS; AGE; WASHINGTON	Mottet, N.K. Body, E.L. 1974

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Mercury
7439-97-6
Hg, MW 200.59, MP -38.87 C, BP 356.72 C, VP 2X10(R-3) mm Hg at 25 C, 100 mm Hg at 260 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
988 Lung		NA	a) 5 b) 10	a) 0.13-1.58 ppm fresh wt b) 0.005-0.24 ppm fresh wt	a) 1.11 ppm fresh wt b) 0.127 ppm fresh wt	a) Mercury mine workers b) Idrija population Post-mortem samples from 3 groups of people: workers in the mercury mine at Idrija, Slovenia, inhabitants of the town of Idrija, and a control group with no known exposure. MERCURY; SELENIUM; OCCUPATIONAL HAZARDS; URBAN AREAS; MINING; AUTOPSIES; THYROID GLANDS; PITUITARY GLAND; KIDNEYS; LIVER; LUNGS; BRAIN; YUGOSLAVIA; METALS; COMPARATIVE EVALUATIONS	Kosta, L. Byrne, A.R. Zelenko, V. 1975
989 Lung			1	a) Not applicable b) Not applicable	a) 3.77 ug/g b) 3.64 ug/g	a) Autopsy sample b) Autopsy sample Samples and autopsy samples from 3 year old Caucasian girl. Symptoms of fever, pain, loss of weight, edema, decreased appetite. Lack of information as to accidental exposure delayed diagnosis 2 weeks. Neutropenia, acrodynia with exfoliative rash, lower nephron nephrosis, encephalitis, hepatitis, hyperglobulinemia, hemolytic anemia, otitis media, recurrent pneumonia. Terminal events were bronchopneumonia, appendicitis, peritonitis, sepsis. Acrodynia from elemental mercury poisoning is rare. Grade school laboratory CASE HISTORIES; MERCURY; CHILDREN; METALS; LIVER; MUSCLES; SPLEEN; LUNGS; BRAIN; BONES; KIDNEYS; URINE	Johnson, K.G. Evanger, A. Van Meter, W. 1978

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
990 Lung		AAS GC	28	0.015-0.30 ug/g wet wt	0.080 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
991 Lung	Ingestion	AAS	a) 1 b) 1 c) 1 d) 1	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) 2.9 ppm b) 2.7 ppm c) 0.013 ppm d) 0.015 ppm	a) Estimated daily intake of Hg was 6.7 ug b) Estimated daily intake of Hg was 6.7 ug c) Control d) Control 40 yr old female (a) and 45 yr old male (b) who died of Hg poisoning, and two males (ages 25 and 60) who were accident victims. Food contamination METALS; MERCURY; CASE HISTORIES; IRAQ; BRAIN; BLOOD; HEART; LIVER; LUNGS; OVARIES; TESTES; KIDNEYS; SPLEEN	Riley, M.I. Rahim, S.A. Abbas, A.H. 1976

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Mercury
7439-97-6
Hg, AtW 200.59, MP -38.87 C, BP 356.72 C, VP 2X10(E-3) mm Hg at 25 C, 100 mm Hg at 260 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
992 Milk	Ingestion	AAS	76	a) Not given b) Not given	a) 7.6 ng/ml b) 3.3 ng/ml	a) Coastal area b) Urban area Samples from 38 maternal-infant pairs from Anchorage and the Yukon-Kuskokwim Delta hospitalized for childbirth. Effects on newborn in weight or vital signs not evident. Diet (Ingestion of seal meat and oil, fish, shorebirds) MERCURY; NEWBORN; PREGNANCY; PLACENTA; METALS; FOODS; FISHES; SEALS; BLOOD PLASMA; ERYTHROCYTES; MILK; HAIR; INFANTS; ALASKA; DIETS; BIRDS	Galster, W.A. 1976
993 Milk		AAS	32	Not given	0.93 ppb	100 maternal-umbilical cord blood pairs, 38 placentae, and 32 breast milk samples from patients at the University of Iowa Hospitals. BLOOD; UMBILICAL CORD; LACTATION; BREAST; MILK; MERCURY; METALS; PLACENTA; IOWA	Pitkin, R.M. Bahns, J.A. Piler, L.J., Jr. Reynolds, W.A. 1976
994 Milk	Ingestion Placental	AAS	34	0.4-9.8 ppb	3.6 ppb	Levels represent background of Hg in breast milk of Japanese women. Study at Sumida Obstetric Hospital and Oshima Clinic of Toho University, Tokyo, Japan, July - November, 1974. Fish used for food URBAN AREAS; MERCURY; METHYL MERCURY COMPOUNDS; DIETS; METALS; JAPAN; FETUS; BLOOD; MILK; HAIR	Fujita, M. Takabatake, E. 1977

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
995 Milk, whole	Ingestion	AAS	38	0.4-9.8 ppb	3.6 ppb	Levels represent background of Hg in breast milk of Japanese women. Study at Sunida Obstetric Hospital and Oshima Clinic of Toho University, Tokyo, Japan, July-November, 1976. URBAN AREAS; MERCURY; DIETS; METALS; JAPAN; FETUS; BLOOD; MILK; HAIR; METHYL MERCURY COMPOUNDS	Fujita, M. Takabatake, E. 1977
996 Muscle		AAS	78	0.0-0.954 ug/g wet wt	0.126 ug/g wet wt	69 samples Data do not indicate proportion of Hg burden in biologically active form. Autopsies done at University of Washington and representing 60% urban and 40% rural population. Ages ranged from 26 weeks gestation to 88 years. None of the cases had evidence of short-term mercurialism. Four patients had a chronic liver lesion that could conceivably diminish excretion of mercury. MERCURY; METALS; AUTOPSIES; KIDNEYS; LIVER; HEART; LUNGS; SPLEEN; PANCREAS; BRAIN; MUSCLES; SPINAL CORD; SKIN; URBAN AREAS; RURAL AREAS; POPULATION EXPOSURE; BIOINDICATORS; AGE; WASHINGTON	Mottet, N.K. Body, R.L. 1974
997 Muscle		NA	100	0.13-0.87 ppm wet wt	0.276 ppm wet wt	Gastrocnemius muscle from cadavers (15-91 yr). BLOOD; URINE; MERCURY; BRAIN; CEREBELLUM; CEREBRAL CORTEX; ERYTHROCYTES; MUSCLES; CADAVERS; SWITZERLAND; METALS; AGE; CHILDREN; AUTOPSIES; NEW YORK	Massaro, E.J. Yaffe, S.J. Thomas, C.C., Jr. 1974

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Mercury
7439-97-6
Hg, AtW 200.59, MP -38.87 C, BP 356.72 C, VP 2X10(E-3) mm Hg at 25 C, 100 mm Hg at 260 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
998 Muscle			1	a) Not applicable b) Not applicable	a) 0.23 ug/g b) 0.27 ug/g	a) Autopsy sample b) Autopsy sample Samples and autopsy samples from 3 year old Caucasian girl. Symptoms of fever, pain, loss of weight, edema, decreased appetite. Lack of information as to accidental exposure delayed diagnosis 2 weeks. Neutropenia, acrodynia with exfoliative rash, lower nephron nephrosis, encephalitis, hepatitis, hyperglobulinemia, hemolytic anemia, otitis media, recurrent pneumonia. Terminal events were bronchopneumonia, appendicitis, peritonitis, sepsis. Acrodynia from elemental mercury poisoning is rare. Grade school laboratory CASE HISTORIES; MERCURY; CHILDREN; METALS; LIVER; MUSCLES; SPLEEN; LUNGS; BRAIN; BONES; KIDNEYS; URINE	Johnson, K.G. Evanger, A. Van Meter, W. 1978
999 Muscle		AAS GC	27	0.018-0.15 ug/g wet wt	0.060 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Mercury
7439-97-6
Hg, [illegible] at 760 C

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TISSUE	RESPONSE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1009 Muscle	Ingestion	AAS	a) 1 b) 1 c) 1 d) 1	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) 3.8 ppm b) 4.9 ppm c) 0.036 ppm d) 0.039 ppm	a) Estimated daily intake of Hg was 6.7 ug b) Estimated daily intake of Hg was 6.7 ug c) Control d) Control 40 yr old female (a) and 45 yr old male (b)who died of Hg poisoning, and two males (ages 25 and 60) who were accident victims. Food contamination METALS; MERCURY; CASE HISTORIES; IRAQ; BRAIN; BLOOD; HEART; LIVER; LUNGS; OVARIES; TESTES; KIDNEYS; SPLEEN	Hilay, M.I. Pahim, S.A. Abbas, A.H. 1976
1001 Nail		AAS	a) 80 b) 39 c) 41	a) 0.25-8.09 ug/kg b) Not given c) Not given	a) 1.08 ug/kg b) 1.11 ug/kg c) 1.05 ug/kg	a) Representative sample of urban and city residents b) Urban residents c) Rural residents Correlation between Hg level and number of fish dinners, as well as Hg level and number of Hg amalgam fillings. Other data available. 80 subjects from the Province of Rome (39 from city, 41 from province) with no occupational exposure and with normal food habits. MERCURY; METALS; ITALY; BLOOD; HAIR; FISHES; URBAN AREAS; RURAL AREAS	Pallotti, G. Bencivenga, R. Simonetti, T. 1979

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Mercury
7439-97-6
Hg, MW 200.59, MP -38.87 C, BP 356.72 C, VP 2X10(E-3) mm Hg at 25 C, 100 mm Hg at 240 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1002 Ovary		AAS GC	14	0.028-0.13 ug/g wet wt	0.069 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
1003 Ovary	Ingestion	AAS	1	Not applicable	1.8 ppm	Estimated daily exposure 6.7 mg 40 yr old female victim of Hg poisoning. Food contamination METALS; MERCURY; CASE HISTORIES; IRAQ; BRAIN; BLOOD; HEART; LIVER; LUNGS; OVARIES; TESTES; KIDNEYS; SPLEEN	Riley, M.I. Rahim, S.A. Abbas, A.H. 1976

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Mercury
7439-97-6
Hg, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1004 Pancreas		AAS	14	0.007-0.511 ug/g wet wt	0.065 ug/g wet wt	32 samples Data do not indicate proportion of Hg burden is biologically active form. Autopsies done at University of Washington and representing 60% urban and 40% rural population. Ages ranged from 26 weeks gestation to 88 years. None of the cases had evidence of short-term mercurialism. Four patients had a chronic liver lesion that could conceivably diminish excretion of mercury. MERCURY; METALS; AUTOPSIES; KIDNEYS; LIVER; HEART; LUNGS; SPLEEN; PANCREAS; BRAIN; MUSCLES; SPINAL CORD; SKIN; URBAN AREAS; RURAL AREAS; POPULATION EXPOSURE; BIOINDICATORS; AGE; WASHINGTON	Hottet, M.K. Body, B.L. 1974
1005 Pancreas		AAS GC	30	0.023-0.29 ug/g wet wt	0.083 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1006 Pituitary		NA	a) 7 b) 11 c) 6	a) 13.8-64.3 ppm fresh wt b) 0.02-1.76 ppm fresh wt c) 0.007-0.064 ppm fresh wt	a) 27.1 ppm fresh wt b) 0.46 ppm fresh wt c) 0.04 ppm fresh wt	a) Mercury mine workers b) Idrija population c) Controls Post-mortem samples from 3 groups of people: workers in the mercury mine at Idrija, Slovenia, inhabitants of the town of Idrija, and a control group with no known exposure. MERCURY; SELENIUM; OCCUPATIONAL HAZARDS; URBAN AREAS; MINING; AUTOPSIES; THYROID GLANDS; PITUITARY GLAND; KIDNEYS; LIVER; LUNGS; BRAIN; YUGOSLAVIA; METALS; COMPARATIVE EVALUATIONS	Kosta, L. Byrne, A.R. Zelenko, V. 1975
1007 Placenta	Ingestion	AAS	76	a) Not given b) Not given	a) 38.9 ng/g b) 11.6 ng/g	a) Coastal area b) Urban area Samples from 38 maternal-infant pairs from Anchorage and the Yukon-Kuskokwim Delta hospitalized for childbirth. Effects on newborn weight or vital signs not evident. Diet (Ingestion of seal meat and oil, fish, shorebirds) MERCURY; NEWBORN; PREGNANCY; PLACENTA; METALS; FOODS; FISHES; SEALS; BLOOD PLASMA; ERYTHROCYTES; MILK; HAIR; INFANTS; ALASKA; DIETS; BIRDS	Galster, W.A. 1976

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Mercury
7439-97-6
Hg, MW 200.59, mp -38.87 C, BP 356.72 C, VP 0X10(E-3) mm Hg at 25 C, 100 mm Hg at 260 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1008 Placenta		AAS	38	Not given	2.28 ppb	100 maternal-umbilical cord blood pairs, 38 placentae, and 32 breast milk samples from patients at the University of Iowa Hospitals. BLOOD; UMBILICAL CORD; LACTATION; BREAST; MILK; MERCURY; METALS; PLACENTA; IOWA	Pitkin, R.M. Bahns, J.A. Filer, L.J., Jr. Reynolds, W.A. 1976
1009 Placenta	Inhalation Ingestion	AAS	a) 474 b) 333 c) 109 d) 231 e) 236	a) 0.11-10.31 ug/100 g wet wt b) 0.13-10.32 ug/100 g wet wt c) 0.11-8.91 ug/100 g wet wt d) 0.13-10.32 ug/100 g wet wt e) 0.11-8.91 ug/100 g wet wt	a) 1.53 ug/100 g wet wt b) 1.62 ug/100 g wet wt c) 1.22 ug/100 g wet wt d) 1.61 ug/100 g wet wt e) 1.43 ug/100 g wet wt	a) All women b) Nonsmokers c) Smokers d) Rural + semirural e) Urban + industrial Placentas from women living in or near Antwerp, Brussels, Leuven (Louvain), Tournai, and Vilvoorde, Belgium. PLACENTA; BIOACCUMULATION; COMPARATIVE EVALUATIONS; SMOKING; BLOOD; LEAD; MERCURY; CADMIUM; BELGIUM; METALS; UMBILICAL CORD	Roels, H. Hubermont, G. Buchet, J.P. Lauwerys, R. 1978

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1010 Placenta			58	a) Not given b) Not given c) Not given d) Not given	a) 0.014 ug/g wet wt b) 0.008 ug/g wet wt c) 0.015 ug/g wet wt d) 0.019 ug/g wet wt	a) All cities b) Augusta, GA c) Birmingham, AL d) Charlotte, NC Metal levels correlated with enzyme activities. Samples from 58 normal placentas collected immediately at delivery in hospitals in Charlotte, NC, Birmingham, AL and Augusta, GA. PLACENTA; MANGANESE; BARIUM; CADMIUM; SELENIUM; MERCURY; TIN; VANADIUM; BERYLLIUM; SILVER; COBALT; NICKEL; CHROMIUM; COPPER; ZINC; LEAD; IRON; PLATINUM; BORON; ARSENIC; LITHIUM; METALS; TRACE ELEMENTS; ENZYMES; GEORGIA; ALABAMA; NORTH CAROLINA	Karp, W.B. Robertson, A.F. 1977
1011 Skin		AAS	14	0.004-1.275 ug/g wet wt	0.193 ug/g wet wt	60 samples Data do not indicate proportion of Hg burden in biologically active form. Autopsies done at University of Washington and representing 60% urban and 40% rural population. Ages ranged from 26 weeks gestation to 88 years. None of the cases had evidence of short-term mercurialism. Four patients had a chronic liver lesion that could conceivably diminish excretion of mercury. MERCURY; METALS; AUTOPSIES; KIDNEYS; LIVER; HEART; LUNGS; SPLEEN; PANCREAS; BRAIN; MUSCLES; SPINAL CORD; SKIN; URBAN AREAS; RURAL AREAS; POPULATION EXPOSURE; BIOINDICATORS; AGE; WASHINGTON	Hottet, N.K. Body, R.L. 1974

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1012 Skin		NA	a) 5 b) 5 c) 10 (Samples)	a) 0.05-0.10 ug/g dry wt b) 0.09-0.20 ug/g dry wt c) 0.05-0.10 ug/g dry wt	a) 0.078 ug/g dry wt b) 0.122 ug/g dry wt c) 0.078 ug/g dry wt	a) Normal b) Psoriatic uninvolved c) Psoriatic involved Figures may be too low because of possible volatilization of Hg during the analytical process. Losses due to desquamation as much as 1/3 the normal urinary excretion for Hg in subjects with whole-body psoriatic involvement. Specimens from trunk region of 14 males in Sweden. 9 were suffering from psoriasis (ages 0-59 yr, mean 46), and 5 had no evidence of skin disorder (ages 19-57 yr, mean 33) BROMINE; CADMIUM; CHROMIUM; MOLYBDENUM; RUBIDIUM; SELENIUM; ARSENIC; GOLD; CESIUM; MERCURY; LANTHANUM; ANTIMONY; SCANDIUM; SAMARIUM; TUNGSTEN; EPIDERMIS; SKIN DISEASES; METALS; TRACE ELEMENTS	Holin, L. Wester, P.O. 1974
1013 Skin		AAS GC	27	0.017-0.15 ug/g wet wt	0.059 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Hg, MW 200.59, MP -38.87 C, BP 356.72 C, VP 2X10(E-3) mm Hg at 25 C, 100 mm Hg at 260 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1014 Spinal cord		AAS	14	0.010-0.803 ug/g wet wt	0.087 ug/g wet wt	59 samples Data do not indicate proportion of Hg burden in biologically active form. Autopsies done at University of Washington and representing 60% urban and 40% rural population. Ages ranged from 26 weeks gestation to 88 years. None of the cases had evidence of short-term mercurialism. Four patients had a chronic liver lesion that could conceivably diminish excretion of mercury. MERCURY; METALS; AUTOPSIES; KIDNEYS; LIVER; HEART; LUNGS; SPLEEN; PANCREAS; BRAIN; MUSCLES; SPINAL CORD; SKIN; URBAN AREAS; RURAL AREAS; POPULATION EXPOSURE; BIOINDICATORS; AGE; WASHINGTON	Mottet, N.K. Body, R.L. 1974

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Mercury
7439-97-6
Hg, Atk 200.59, MP -38.87 C, BP 356.72 C, VP 2X10(E-3) mm Hg at 25 C, 100 mm Hg at 260 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1015 Spleen		AAS	14	0.012-1.205 ug/g wet wt	0.122 ug/g wet wt	41 samples Data do not indicate proportion of Hg burden in biologically active form. Autopsies done at University of Washington and representing 60% urban and 40% rural population. Ages ranged from 26 weeks gestation to 88 years. None of the cases had evidence of short-term mercurialism. Four patients had a chronic liver lesion that could conceivably diminish excretion of mercury. MERCURY; METALS; AUTOPSIES; KIDNEYS; LIVER; HEART; LUNGS; SPLEEN; PANCREAS; BRAIN; MUSCLES; SPINAL CORD; SKIN; URBAN AREAS; RURAL AREAS; POPULATION EXPOSURE; BIOINDICATORS; AGE; WASHINGTON	Mottet, N.K. Body, R.L. 1974

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Mercury
7439-97-6
Hg, MW 200.59, MP -38.87 C, BP 356.72 C, VP 2E10(E-3) mm Hg at 25 C, 100 mm Hg
at 260 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1016 Spleen			1	a) Not applicable b) Not applicable	a) 1.74 ug/g b) 1.37 ug/g	a) Autopsy sample b) Autopsy sample Samples and autopsy samples from 3 year old Caucasian girl. Symptoms of fever, pain, loss of weight, edema, decreased appetite. Lack of information as to accidental exposure delayed diagnosis 2 weeks. Neutropenia, acrodynia with exfoliative rash, lower nephron nephrosis, encephalitis, hepatitis, hyperglobulinemia, hemolytic anemia, otitis media, recurrent pneumonia. Terminal events were bronchopneumonia, appendicitis, peritonitis, sepsis. Acrodynia from elemental mercury poisoning is rare. Grade school laboratory CASE HISTORIES; MERCURY; CHILDREN; METALS; LIVER; MUSCLES; SPLEEN; LUNGS; BRAIN; BONES; KIDNEYS; URINE	Johnson, K.G. Evanger, A. Van Meter, W. 1978
1017 Spleen		AAS GC	28	0.021-0.14 ug/g wet wt	0.068 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Mercury
7439-97-6
Hg, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1018 Spleen	Ingestion	AAS	a) 1 b) 1 c) 1 (c) 1 d) 1	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) 2.0 ppm b) 1.3 ppm c) 0.021 ppm d) 0.030 ppm	a) Estimated daily intake of Hg was 6.7 mg b) Estimated daily intake of Hg was 6.7 mg c) Control d) Control 40 yr old female (a) and 45 yr old male (b) who died of Hg poisoning, and two males (ages 25 and 60) who were accident victims. Food contamination METALS; MERCURY; CASE HISTORIES; IRAQ; BRAIN; BLOOD; HEART; LIVER; LUNGS; OVARIES; TESTES; KIDNEYS; SPLEEN	Hilmy, M.I. Rahim, S.A. Abbas, A.H. 1976
1019 Teeth		X-ray Spectrometry	a) 10 b) 16 c) 12	a) Not given b) Not given c) Not given	a) 4.0 ug/g dentin b) 5.6 ug/g dentin c) 5.3 ug/g dentin	a) 17th Century Hopi b) Contemporary Hopi c) Contemporary California Samples from individual skeletons of Hopi Indians dated 17th century, samples from contemporary Hopi Indian children in Arizona, and samples from children in suburban Northern California. LEAD; STRONTIUM; ZINC; COPPER; MERCURY; CALCIUM; PHOSPHORUS; METALS; TRACE ELEMENTS; MINERALS; TEETH; ARIZONA; CALIFORNIA; DIETS; BIOACCUMULATION; CHILDREN	Wuhmlein, H.V. Calloway, D.H. 1977

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Mercury
7439-97-6
Hg, MW 200.59, MP -38.87 C, BP 356.72 C, VP 2X10(E-3) mm Hg; at 25 C, 100 mm Hg
at 126 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1020 Testicle		AAS GC	14	0.025-0.12 ug/g wet wt	0.067 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
1021 Testis	Ingestion	AAS	a) 1 b) 1 c) 1	a) Not applicable b) Not applicable c) Not applicable	a) 2.5 ppm b) 0.011 ppm c) 0.016 ppm	a) Estimated daily intake of Hg was 6.7 ug b) Control c) Control 40 yr old male who died from Hg poisoning, and two males (ages 25 and 60) who were accident victims. Food contamination METALS; MERCURY; CASE HISTORIES; IRAQ; BRAIN; BLOOD; HEART; LIVER; LUNGS; OVARIES; TESTES; KIDNEYS; SPLEEN	Hiley, M.I. Rahim, S.A. Abbas, A.H. 1976

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Hg, MW 200.59, MP -38.87 C, BP 356.72 C, VP 2X10(E-3) mm Hg at 25 C, [illegible]
at 25.0 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1022 Thyroid gland		NA	a) 8 b) 10 c) 16	a) 7.8-101 ppm fresh wt b) 0.03-3.6 ppm fresh wt c) 0.003-0.13 ppm fresh wt	a) 35.2 ppm fresh wt b) 0.70 ppm fresh wt c) 0.030 ppm fresh wt	a) Mercury mine workers b) Idrija population c) Controls Post-mortem samples from 3 groups of people: workers in the mercury mine at Idrija, Slovenia, inhabitants of the town of Idrija, and a control group with no known exposure. MERCURY; SELENIUM; OCCUPATIONAL HAZARDS; URBAN AREAS; MINING; AUTOPSIES; THYROID GLANDS; PITUITARY GLAND; KIDNEYS; LIVER; LUNGS; BRAIN; YUGOSLAVIA; METALS; COMPARATIVE EVALUATIONS	Konta, I. Byrne, A.R. Zelenko, V. 1975
1023 Trachea		AAS GC	16	0.015-0.11 ug/g wet wt	0.047 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Hg, MW 200.59, MP -38.87 C, BP 356.72 C, VP 2x10(-3) mm Hg at 25 C, 100 mm Hg at 280 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1024 Urine		Colorimetry	a) 21 b) 21 c) 9	a) 119-443 nmol/24 h b) 0-157 nmol/24 h c) 0-70 nmol/24 h	a) 266 nmol/24 h b) 72 nmol/24 h c) 40 nmol/24 h Values are medians.	a) Exposed b) Control c) Exposed - 12 months after control measures 21 laboratory technicians (13 men and 8 women) at 3 hospitals-exposed to mercury-containing fixatives. 21 control technicians. MERCURY; OCCUPATIONAL HAZARDS; PROSPINS; URINE	Stewart, W.K. Guirgis, H.A. Sanderson, J. Taylor, W. 1977
1025 Urine		AAS	47	2.0-26.0 ug/l	7.2 ug/l	Yanomamo Indians Unacculturated population consisted of Yanomamo Indians of southern Venezuela. BLOOD; URINE; HAIR; VENEZUELA; MERCURY; CADMIUM; LEAD; COPPER; METALS; MICHIGAN	Hecker, L.H. Allen, H.E. Dinman, B.D. Weel, J.V. 1974
1026 Urine		NA	50	0.003-0.017 ppm wet wt	0.008 ppm wet wt	Urine from healthy volunteers ages 16-34 years. Individuals had lived for at least 9 months of the year for the past 5 years within a 60 mile radius of Buffalo, NY. BLOOD; URINE; MERCURY; BRAIN; CEREBELLUM; CEREBRAL CORTEX; ERYTHROCYTES; MUSCLES; CADAVERS; SWITZERLAND; METALS; AGE; CHILDREN; AUTOPSIES; NEW YORK	Massaro, E.J. Taffe, S.J. Thomas, C.C., Jr. 1974

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Mercury
7439-97-6
Hg, [illegible]
at 25° C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1027 Urine			1	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) 0.86 ppm b) 0.41 ppm c) 0.16 ppm d) 0.43 ppm	a) 24 hr level on Nov 26 b) 24 hr level on Dec 5 c) 24 hr level on Dec 8 d) 24 hr level on Dec. 9 after 1 g oral penicillamine Samples and autopsy samples from 3 year old Caucasian girl. Symptoms of fever, pain, loss of weight, edema, decreased appetite. Lack of information as to accidental exposure delayed diagnosis 2 weeks. Neutropenia, acrodynia with exfoliative rash, lower nephron nephrosis, encephalitis, hepatitis, hyperglobulinemia, hemolytic anemia, otitis media, recurrent pneumonia. Terminal events were bronchopneumonia, appendicitis, peritonitis, sepsis. Acrodynia from elemental mercury poisoning is rare. Grade school laboratory CASE HISTORIES; MERCURY; CHILDREN; METALS; LIVER; MUSCLES; SPLEEN; LUNGS; BRAIN; BONES; KIDNEYS; URINE	Johnson, K.G. Evanger, A. Van Peter, W. 1978

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Mercury
7439-97-6
Hg, MW 200.59, MP -38.87 C, BP 356.72 C, VP 2X10(E-3) mm Hg at 25 C, 100 mm Hg at 260 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1028 Urine	Inhalation	AAS	a) 1 b) 1 c) 1	a) 5240-262 ng/ml b) 2400-49 ng/ml c) 6690-207 ng/ml	a) Not given b) Not given c) Not given	a) Patient 1, Feb. and May, 1974 b) Patient 2, Feb and May, 1974 c) Patient 8, Feb. and May, 1974 Other data available. Samples from two teenage girls and one 30 year old female living in a trailer park in Mississippi. Symptoms of drowsiness, nervousness, burning eyes, painful mouth, erythematous rash, resting tremor, metallic taste, gastrointestinal upset, excessive perspiration, chronic cough, loss of hair. Electroencephalograms showed paroxysmal occipital single and multiple spikes and high voltage slow waves. Metallic mercury spilled on rugs. MERCURY; METALS; CASE HISTORIES; GASTROINTESTINAL SYSTEM; NEUROLOGIC MANIFESTATIONS; DERMATITIS; ADOLESCENTS; MISSISSIPPI; BLOOD; URINE	Sexton, D.J. Powell, K.E. Liddle, J.A. Sarek, A.L. Smith, J.C. Clarkson, T.W. 1978

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1029 Urine		AAS	a) 28 b) 34 c) 21 d) 28	a) 25-115 nmol/l b) 25-455 nmol/l c) 25-500 nmol/l d) 25-940 nmol/l	a) 76.9 nmol/l b) 97/5 nmol/l c) 110.7 nmol/l d) 191.3 nmol/l	a) Area Health Authority dentists, auxilaries and hygienists b) Area Health Authority dental surgery assistants c) National Health Service dentists, assistants and hygienists d) National Health Service dental surgery assistants Mixing amalgam a duty of dental surgery assistants, but not of auxiliaries and hygienists. Samples from dentists, dental surgery assistants, dental assistants and dental hygienists in England. MERCURY; METALS; OCCUPATIONAL HAZARDS; DENTISTRY; URINE; UNITED KINGDOM	Kelman, G.R. 1978
1030 Urine	Inhalation Ingestion	NA	a) 4 b) 9 c) 12	a) 155-426 ng/ml b) 1.3-24.8 ng/ml c) 1.9-9.0 ng/ml	a) 251 ng/ml b) 4.7 ng/ml c) 4.3 ng/ml	a) Heavy occupational exposure b) Random exposure c) Controls 7 men, 29-54 yr working near Hg furnaces. 13 male miners, 40-54 yr working at extraction of Hg ore. 12 controls, relatives of above. Mines Furnaces MERCURY; SELENIUM; POPULATION EXPOSURE; ITALY; OCCUPATIONAL HAZARDS; BLOOD; URINE; HAIR; BIOACCUMULATION; MINERAL DEPOSITS; METALS; METABOLISM; AUTOPSIES	Rossi, L.C. Clemente, G.F. Santaroni, G. 1976

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Mercury
7439-97-6
Hg, MW 200.59, MP -38.87 C, BP 356.72 C, VP 2X10(E-3) mm Hg at 25 C, 100 mm Hg at 260 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1031 Urine		AAS	a) 13 b) 3	a) <0.1-114.12 ug/l b) 8.55-70 ug/l	a) Not given b) 31.45 ug/l	a) Exposed persons from university b) Exposed to metallic Hg Correlation between blood and urine Hg and total amount of cells with chromosomal aberrations. 21 men and 7 women occupationally exposed to various Hg compounds. 10 persons with Hg intorication, and other 18 with low exposure. MERCURY; OCCUPATIONAL HAZARDS; BLOOD; URINE; BIOACCUMULATION; CHROMOSOMAL ABERRATIONS; LYMPHOCYTES	Verschaeve, L. Kirsch-Volders, M. Susanne, C. Groetenbriel, C. Haustermans, F. Lecomte, A. Roossels, D. 1976
1032 Urine		NA		Not applicable	<0.005 mg/l	Reference sample at "normal" concentration URINE; TRACE ELEMENTS; METALS; SELENIUM; COPPER; ARSENIC; NICKEL; CHROMIUM; COMPARATIVE EVALUATIONS	Gills, T.E. McClendon, L.T. Maienthal, E.J. Becker, D.A. Durst, H.A. LaFleur, P.D. 1974
1033 Urine		AAS	a) 77 b) 65	a) Not given b) Not given	a) 374 ug/l b) 62.6 ug/l	a) Exposed - 4 plant groups b) Controls Employees in chloralkali and magnetic materials manufacturing plants. INDUSTRIAL PLANTS; NEUROLOGIC MANIFESTATIONS; BLOOD; URINE; MERCURY; OCCUPATIONAL HAZARDS; NEUROMUSCULAR DISEASES; METALS	Miller, J.M. Chaffin, D.B. Smith, R.G. 1975

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Hg, ** 200.59, MP -38.87 C, BP 356.73 C, VP 2x10(E-3) mm Hg at 25 C, 100 mg/m3 at 240 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1034 Urine	Inhalation		2	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable g) Not applicable h) Not applicable i) Not applicable	a) 1060 ug/24 hr b) 2256 ug/24 hr c) 45 ug/24 hr d) 135 ug/24 hr e) 37 ug/24 hr f) 1160 ug/24 hr g) 3075 ug/24 hr h) 298 ug/24 hr i) 23 ug/24 hr	a) 1st day b) 5th day c) 8th day d) 12th day e) 27th day f) 1st day g) 5th day h) 8th day i) 24th day Daily excretory rate in two industrial workers (a)-e) and f)-i)) after a maximum possible exposure of 44.3 mg/m3 for < 8 hr. Subjects received BAL tablets from day 2 to day 5 or 8. Adult male 41 and 40 years old. Immediate symptoms: chills, fever, cough, chest pain, weakness and tremors. Chronic symptoms nervousness, irritability, rapidly changing emotions, lack of ambition and lack of sexual desire. METALS; MERCURY; URINE; CASE HISTORIES	McFarland, R.B. Reigel, M. 1978
1035 Urine	Ingestion	AAS	a) 203 b) 73	a) Not given b) Not given	a) 4.51 ug/g b) 4.92 ug/g	a) Males b) Females Biological half-times (BHT) obtained by observation of accumulation from 0-90 years and calculation by a mathematical model. Autopsy samples from Tokyo accident victims with no known occupational exposure. 1.1 years CADMIUM; MERCURY; LEAD; METALS; AUTOPSIES; BIOACCUMULATION; AGE; SEX; FOODS; JAPAN	Sugita, M. 1978

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Mercury
7439-97-6
Hg, AtW 200.59, MP -38.87 C, BP 356.72 C, VP 2X10(E-3) mm Hg at 25 C, 100 mm Hg at 260 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1036 Urine			130	a) 0-10 ug/l b) 10-20 ug/l c) 20-50 ug/l d) 50-80 ug/l e) >100 ug/l	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 50 technicians b) 24 technicians c) 34 technicians d) 16 technicians e) 6 technicians Employee using Martin's apparatus. Highest reading, 1150 ug/l. Other data available. Samples from 130 staff in 20 laboratories No subjects had signs of clinical mercurialism. MERCURY; METALS; METAL POISONING; OCCUPATIONAL HAZARDS; URINE	Harrington, J.M. 1974

Mercury(1+), methyl-, ion (8 CI)
Mercury(1+), methyl- (9 CI)
22967-92-6
C-H3-Hg, MW 215.63

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1037 Blood		AAS GC	12	0.0036-0.026 ug/g wet wt	0.011 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
1038 Brain		AAS GC	a) 20 b) 20	a) 0.0015-0.069 ug/g wet wt b) 0.0015-0.096 ug/g wet wt	a) 0.016 ug/g wet wt b) 0.019 ug/g wet wt	a) Cerebrum b) Cerebellum Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Mercury(1+), methyl-, ion (9 CI)
Mercury(1+), methyl- (9 CI)
22967-92-6
C-93-Hg, MW 215.63

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1039 Hair		GC-EC	a) 20 b) 20 c) 18 d) 3	a) Not given b) Not given²c) 0.93-3.81 ppm d) 5.3-45.2 ppm	a) 0.29 ppm b) 0.54 ppm c) 2.05 ppm d) 22.0 ppm	a) Vegetarians b) Nonvegetarians c) No refinery workers d) Minamata patients (male) Other data available. Two groups of Indians in Bombay vegetarians and nonvegetarians. Workers in a molybdenum refinery shop, exposed to Hg vapor. Minamata disease patients (13 males and 9 females), 5-9.9 yr after onset of the disease. MERCURY; METHYL MERCURY COMPOUNDS; HAIR; FISHES; DIETS; OCCUPATIONAL HAZARDS; MOLYBDENUM; NERVOUS SYSTEM DISEASES; METALS; JAPAN; INDIA	Yamaguchi, S. Matsumoto, H. Kaku, S. Tateishi, M. Shiramizu, M. 1975
1040 Hair		AAS GC	28	0.63-10.4 ug/g wet wt	2.6 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Mercury(1+), methyl-, ion (8 CI)
Mercury(1+), methyl- (9 CI)
22967-92-6
C-H3-Hg, [illegible]

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1041 Heart		AAS GC	13	0.0030-0.027 ug/g wet wt	0.0092 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
1042 Intestine		AAS GC	a) 28 b) 20	a) 0.0030-0.069 ug/g wet wt b) 0.0018-0.026 ug/g wet wt	a) 0.018 ug/g wet wt b) 0.0065 ug/g wet wt	a) Small intestines b) Large intestine Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Mercury(1+), methyl-, ion (8 CI)
Mercury(1+), methyl- (9 CI)
22967-92-6
C-83-Hg, MW 215.63

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1043 Kidney		AAS GC	29	0.010-0.080 ug/g wet wt	0.023 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
1044 Liver		AAS GC	30	0.012-0.080 ug/g wet wt	0.044 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Mercury(1+), methyl-, ion (8 CI)
Mercury(1+), methyl- (9 CI)
22967-92-6
C-H3-Hg.

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1045 Lung		AAS GC	11	0.0023-0.015 ug/g wet wt	0.0065 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
1046 Muscle		AAS GC	12	0.0041-0.019 ug/g wet wt	0.0078 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Mercury(1+), methyl-, ion (8 CI)
Mercury(1+), methyl- (9 CI)
22967-92-6
C-H3-Hg, 59.215.63

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1087 Pancreas		AAS GC	29	0.0013-0.033 ug/g wet wt	0.010 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

Methane, dichloro-
75-09-2
C-H2-Cl2
MW 84.94, MP -95.1 C, BP 39.75 C, VP 380 mm Hg at 22 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1048 Blood	Inhalation	GC	1	Not applicable	51 mg/dl	Samples from deceased 13 year old black male Cyanosis of brain, multiple petecchiae of epicardial surface, dilation of heart with tiger-striped appearance of the myocardium. Congestion and edema of lungs. Congestion of conjunctivae. Skin slippage of forearms and hand. FORENSIC MEDICINE; CASE HISTORIES; CHLORINATED HYDROCARBONS; HEALTH HAZARDS; BLOOD; LIVER; BRAIN	Bonventre, J. Brennan, O. Jason, D. Henderson, A. Bastos, M.L. 1978
1049 Brain	Inhalation	GC	1	Not applicable	24.8 mg/100g	Samples from deceased 13 year old black male Cyanosis of brain, multiple petecchiae of epicardial surface, dilation of heart with tiger-striped appearance of the myocardium. Congestion and edema of lungs. Congestion of conjunctivae. Skin slippage of forearms and hand. FORENSIC MEDICINE; CASE HISTORIES; CHLORINATED HYDROCARBONS; HEALTH HAZARDS; BLOOD; LIVER; BRAIN	Bonventre, J. Brennan, O. Jason, D. Henderson, A. Bastos, M.L. 1978

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Methane, dichloro-
75-09-2
C-H2-Cl2
MW 84.94, MP -95.1 C, BP 39.75 C, VP 380 mm Hg at 22 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1050 Liver	Inhalation	GC	1	Not applicable	14.4 mg/100g	Samples from deceased 13 year old black male Cyanosis of brain, multiple petecchiae of epicardial surface, dilation of heart with tiger-striped appearance of the myocardium. Congestion and edema of lungs. Congestion of conjunctivae. Skin slippage of forearms and hand. FORENSIC MEDICINE; CASE HISTORIES; CHLORINATED HYDROCARBONS; HEALTH HAZARDS; BLOOD; LIVER; BRAIN	Bonventre, J. Brennan, O. Jason, D. Henderson, A. Bastos, N.L. 1978

Methanearsonic acid (8 CI)
Arsonic acid, methyl- (9 CI)
124-58-3
C-H5-As-03
MW 139.96, MP 161 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1051 Urine	Inhalation	ES	a) 41 b) 30 c) 23 d) 30	a) Not given b) Not given c) Not given d) Not given	a) 3.4 ug/l b) 4.9 ug/l c) 9.7 ug/l d) 20.8 ug/l Means are geometric.	a) Controls b) Low exposure c) Medium exposure d) High exposure Levels as As (V). Copper smelter workers with 3 ranges of arsenic exposure. Control group of unexposed male workers. Ages ranged from 26-65, mean of 46 yr. All 4 groups averaged 20 cigarettes/day, 20 smoking yr. ARSENIC; METHYL RADICALS; URINE; COPPER; SMELTERS; OCCUPATIONAL HAZARDS; PARTICULATES	Smith, T.J. Crecelius, E.A. Reading, J.C. 1977

Methylsulfone PCB (No postings in CHEMLINE).

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1052 Milk, fat		GC	1	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable g) Not applicable h) Not applicable i) Not applicable	a) 0.59 ppm b) 0.77 ppm c) 0.74 ppm d) 0.61 ppm e) 0.37 ppm f) 0.17 ppm g) 0.22 ppm h) 0.17 ppm i) 0.15 ppm	a) Aug, 1975 b) Sept, 1975 c) Oct, 1975 d) Dec, 1975 e) Feb, 1976 f) Apr, 1976 g) June, 1976 h) Aug, 1976 i) Nov, 1976 Samples from a woman who had formerly been employed in a capacitor factory for four years handling Kanechlor (KC) 300 and 500. Industrial workplace CHLORINE ORGANIC COMPOUNDS; METABOLITES; MILK; OCCUPATIONAL HAZARDS; POLYCHLORINATED BIPHENYLS	Yoshida, S. Nakamura, A. 1979

Molybdenum
7439-98-7
Mo, [illegible]

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1053 Heart		AAS	22	< 0.02-0.04 ug/g wet wt	Not given	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
1054 Kidney		AAS	29	0.075-0.30 ug/g wet wt	0.16 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Molybdenum
7439-98-7
Mo, AtN 95.94, MP 2622 C, BP 4925 C (approx), VP 1 mm Hg at 3300 C, 10 mm Hg at 3770 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1055 Liver		AAS	30	0.20-1.2 ug/g wet wt	0.57 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
1056 Liver		ES	10	Not given	228 ug/g	Arithmetric mean Geometric mean=173 ug/g Concentrations based on ash weight Samples from ten healthy adult males who were acccident victims. METALS; SILVER; ALUMINUM; BARIUM; CADMIUM; COBALT; CHROMIUM; COPPER; IRON; MANGANESE; MOLYBDENUM; NICKEL; LEAD; TIN; STRONTIUM; TITANIUM; ZINC; LIVER	Perry, H.M., Jr. Perry, E.F. Hixon, B.B. 1977

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Molybdenum
7439-98-7
No, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1057 Lung		MS	98	0.04-3.7 ug/g dry wt	0.31 ug/g dry wt	Mean is geometric. Samples from deceased Cincinnati, OH residents, age range 23-96 years with a median of 66 years, evenly divided between men and women, blacks and whites. Occupations included foundry workers, machinists, farmers, domestics, homemakers, clerical workers. Deaths were from normal causes. METALS; TRACE ELEMENTS; ALUMINUM; CADMIUM; CHROMIUM; COBALT; COPPER; GERMANIUM; IODINE; LEAD; MAGNESIUM; MANGANESE; MOLYBDENUM; SELENIUM; TITANIUM; VANADIUM; ZINC; AUTOPSIES; LUNGS; LYMPH NODES; URBAN AREAS; OHIO	Sweet, D.V. Crouse, W.E. Crable, J.V. 1978
1058 Lung		AAS	25	< 0.02-0.05 ug/g wet wt	Not given	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Molybdenum
7439-98-7
Mo, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1059 Lymph node		MS	98	0.05-340 ug/g dry wt	0.77 ug/g dry wt	Mean is geometric. Samples from deceased Cincinnati, OH residents, age range 23-96 years with a median of 66 years, evenly divided between men and women, blacks and whites. Occupations included foundry workers, machinists, farmers, domestics, homemakers, clerical workers. Deaths were from normal causes. METALS; TRACE ELEMENTS; ALUMINUM; CADMIUM; CHROMIUM; COBALT; COPPER; GERMANIUM; IODINE; LEAD; MAGNESIUM; MANGANESE; MOLYBDENUM; SELENIUM; TITANIUM; VANADIUM; ZINC; AUTOPSIES; LUNGS; LYMPH NODES; URBAN AREAS; OHIO	Sweet, D.V. Crouse, W.E. Crable, J.V. 1978
1060 Pancreas		AAS	18	< 0.02-0.025 ug/g wet wt	Not given	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Molybdenum
7439-98-7
Mo, MW 95.94, MP 2622 C, BP 4825 C (approx), VP 1 mm Hg at 3300 C, 10 mm Hg at 3770 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1061 Skin		NA	a) 5 b) 5 c) 10 (Samples)	a) 0.6-2.5 ug/g dry wt b) 0.9-1.54 ug/g dry wt c) 0.1-0.5 ug/g dry wt	a) 1.70 ug/g dry wt b) 1.27 ug/g dry wt c) 0.29 ug/g dry wt	a) Normal b) Psoriatic uninvolved c) Psoriatic involved Highly significant lower content in untreated psoriatic epidermis than in normal epidermis and uninvolved epidermis (F = 54.136, p less than 0.001). Specimens from trunk region of 14 males in Sweden. 9 were suffering from psoriasis (ages 0-59 yr, mean 46), and 5 had no evidence of skin disorder (ages 19-57 yr, mean 33). BROMINE; CADMIUM; CHROMIUM; MOLYBDENUM; RUBIDIUM; SELENIUM; ARSENIC; GOLD; CESIUM; MERCURY; LANTHANUM; ANTIMONY; SCANDIUM; SAMARIUM; TUNGSTEN; EPIDERMIS; SKIN DISEASES; METALS; TRACE ELEMENTS	Molin, L. Wester, P.O. 1974

Morphinan-3,6alpha-diol, 7,8-didehydro-4,5alpha-epoxy-17-methyl- (8 CI)
Morphinan-3,6-diol, 7,8-didehydro-4,5-epoxy-17-methyl- (5alpha,6alpha)- (9 CI)
57-27-2
C17-H19-N-O3

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1062 Bile	Injection	RIA	1	Not applicable	0.44 ug/ml	Concentration of morphine and morphine glucuronide combined. 37 mg morphine given at intervals over a 17.5 hr period, then stopped. Patient died of other causes 18 hr later. Samples from 35 yr old female who died of gunshot wounds. Patient died of hemoperitoneum due to multiple gunshot wounds to the abdomen. NARCOTICS; SEDATIVES; DRUGS; BLOOD; BRAIN; LIVER; LUNGS; BILE; CASE HISTORIES	Cravey, R.H. Reed, D. 1977
1063 Blood, whole	Injection	RIA	1	Not applicable	0.67 ug/ml	Concentration of morphine and morphine glucuronide combined. 37 mg morphine given at intervals over a 17.5 hr period, then stopped. Patient died of other causes 18 hr later. Samples from 35 yr old female who died of gunshot wounds. Patient died of hemoperitoneum due to multiple gunshot wounds to the abdomen. NARCOTICS; SEDATIVES; DRUGS; BLOOD; BRAIN; LIVER; LUNGS; BILE; CASE HISTORIES	Cravey, R.H. Reed, D. 1977

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Morphinan-3,6alpha-diol, 7,8-didehydro-4,5alpha-epoxy-17-methyl- (8 CI)
Morphinan-3,6-diol, 7,8-didehydro-4,5-epoxy-17-methyl- (5alpha,6alpha)- (9 CI)
57-27-2
C17-H19-N-O3

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1064 Blood, whole	Injection	Fluorometry	a) 10 b) 10 c) 11 d) 7 e) 9 f) 7	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 0.313 ug/ml b) 0.42 ug/ml c) 0.218 ug/ml d) 0.085 ug/ml e) 0.506 ug/ml f) 0.630 ug/ml	a) All cases b) Rapid death c) Slow death d) No history of Addiction e) Ethanol present f) Other sedatives present Samples from brain. Heroin overdose fatalities [age 18-42 yr). Heroin DRUGS; NARCOTICS; BRAIN; CEREBELLUM; SPINAL CORD; SPINAL FLUID; EYE; BLOOD; CEREBRUM; CASE HISTORIES	Spiehler, V.R. Cravey, R.H. Richards, W.G. Elliott, H.W. 1978
1065 Brain	Injection	RIA	1	Not applicable	0.04 ug/g	Concentration of morphine and morphine glucuronide combined. 37 mg morphine given at intervals over a 17.5 hr period, then stopped. Patient died of other causes 18 hr later. Samples from 35 yr old female who died of gunshot wounds. Patient died of hemoperitoneum due to multiple gunshot wounds to the abdomen. NARCOTICS; SEDATIVES; DRUGS; BLOOD; BRAIN; LIVER; LUNGS; BILE; CASE HISTORIES	Cravey, R.H. Reed, D. 1977

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Morphinan-3,6alpha-diol, 7,8-didehydro-4,5alpha-epoxy-17-methyl- (8 CI)
Morphinan-3,6-diol, 7,8-didehydro-4,5-epoxy-17-methyl- (5alpha,6alpha)- (9 CI)
57-27-2
C17-H19-N-O3

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1066 Brain	Injection	RIA	33	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) 0.252 ug/g b) 0.284 ug/g c) 0.245 ug/g d) 0.283 ug/g e) 0.303 ug/g f) 0.227 ug/ml g) 0.302 ug/g	a) Cerebral cortex b) Mid-brain c) Cerebellum d) Pons e) Medulla f) Cerebrospinal fluid g) Spinal Cord Averages, data also tabulated by rapidity of death, previous addiction, and presence of alcohol or other sedatives. Heroin DRUGS; NARCOTICS; BRAIN; CEREBELLUM; SPINAL CORD; SPINAL FLUID; EYE; BLOOD; CEREBRUM; CASE HISTORIES	Spiehler, V.R. Cravey, R.H. Richards, R.K. Elliott, H.W. 1978
1067 Eye	Injection	Fluorometry	a) 39 b) 10 c) 33 d) 7 e) 9 f) 7	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 0.237 ug/ml b) 0.217 ug/ml c) 0.247 ug/ml d) 0.138 ug/ml e) 0.170 ug/ml f) 0.315 ug/ml	a) All cases b) Rapid death c) Slow death d) No history of addiction e) Ethanol present f) Other sedatives present Concentration in vitreous humor. Heroin overdose fatalities [age 18-42 yrs]. Heroin DRUGS; NARCOTICS; BRAIN; CEREBELLUM; SPINAL CORD; SPINAL FLUID; EYE; BLOOD; CEREBRUM; CASE HISTORIES	Spiehler, V.R. Cravey, R.H. Richards, R.K. Elliott, H.W. 1978

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Morphinan-3,4alpha-diol, 7,8-didehydro-4,5alpha-epoxy-17-methyl- (8 CI)
Morphinan-3,6-diol, 7,8-didehydro-4,5-epoxy-17-methyl- (5alpha,6alpha)- (9 CI)
57-27-2
C17-H19-N-O3

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1068 Liver	Injection	RIA	1	Not applicable	0.11 ug/g	Concentration of morphine and morphine glucuronide combined. 37 mg morphine given at intervals over a 17.5 hr period, then stopped. Patient died of other causes 18 hr later. Samples from 35 yr old female who died of gunshot wounds. Patient died of hemoperitoneum due to multiple gunshot wounds to the abdomen. NARCOTICS; SEDATIVES; DRUGS; BLOOD; BRAIN; LIVER; LUNGS; BILE; CASE HISTORIES	Cravey, R.H. Reed, D. 1977
1069 Lung	Injection	RIA	1	Not applicable	0.21 ug/g	Concentration is that of morphine and morphine glucuronide combined. 37 mg morphine given at intervals over a 17.5 hr period, then stopped. Patient died of other causes 18 hrs later. Samples from 35 yr old female who died of gunshot wounds. Patient died of hemoperitoneum due to multiple gunshot wounds to the abdomen. NARCOTICS; SEDATIVES; DRUGS; BLOOD; BRAIN; LIVER; LUNGS; BILE; CASE HISTORIES	Cravey, R.H. Reed, D. 1977

Morphinan-6-one, 4,5alpha-epoxy-3-methoxy-17-methyl- (8 CI)
Morphinan-6-one, 4,5-epoxy-3-methoxy-17-methyl-, (5alpha)- (9 CI)
125-29-1
C18-H21-N-03
MW 299.36, MP 198 C (prisms from alcohol)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1070 Urine	Ingestion	GC/MS	2	a) 0.02-0.04% b) 0.03-0.06%	a) Not given b) Not given	a) 0-12 hr b) 12-24 hr Percent of 30 mg dose of codeine excreted. 2 healthy, adult volunteers, both 75 kg, both drug-free at beginning of of study. DRUGS; NARCOTICS; METABOLITES; URINE	Cone, E.J. Darwin, W.D. Gorodetzky, C.W. 1979

Morphinan-6alpha-ol, 4,5alpha-epoxy-3-methoxy-17-methyl- (8 CI)
Morphinan-6-ol, 4,5-epoxy-3-methoxy-17-methyl-, (5alpha,6alpha)- (9 CI)
125-28-0
C18-H23-N-O3

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1979 Blood		GC	1	Not applicable	0.2 ug/l	Liver blood level. Amitriptyline also present. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, H. 1979
1972 Urine	Ingestion	GC/MS	2	a) 0 b) 0.02-0.03%	a) Not given b) Not given	a) 0-12 hr b) 12-24 hr Percent of 30 mg dose of codeine. 2 healthy, adult volunteers, both 75 kg, both drug-free at beginning of of study. DRUGS; NARCOTICS; METABOLITES; URINE	Cone, E.J. Darwin, W.D. Gorodetzky, C.W. 1979

Morphinan-6alpha-ol, 7,8-didehydro-4,5alpha-epoxy-3-methoxy- (8 CI)
Morphinan-6-ol, 7,8-didehydro-4,5-epoxy-3-methoxy-, (5alpha,6alpha)- (9 CI)
467-15-2
C17-H19-N-O3
MW 285.33, MP 185 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1073 Urine	Ingestion	GC/MS	2	a) 0.96-3.83% b) 0.13-1.10%	a) Not given b) Not given	a) 0-12 hr b) 12-24 hr Percent of 30 mg dose of codeine. 2 healthy, adult volunteers, both 75 kg, both drug-free at beginning of study. DRUGS; NARCOTICS; METABOLITES; URINE	Cone, E.J. Darwin, W.D. Gorodetzky, C.W. 1979

Morphinan-6alpha-ol, 7,8-didehydro-4,5alpha-epoxy-3-methoxy-17-methyl- (8 CI)
Morphinan-6-ol, 7,8-didehydro-4,5-epoxy-3-methoxy-17-methyl-, (5alpha,6alpha)- (9 CI)
76-57-3
C18-H21-N-O3
MW 299.36, MP 154-156 C (after drying at 80 C)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1074 Urine	Ingestion	GC/MS	2	a) 5.56-0.43% b) 3.83-0.13% c) 0.02-0.06% d) 0-0.03% e) 0-0.04% f) 0.05-0.07%	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) Codeine b) Norcodeine c) Hydrocodone d) 6alpha-Hydrocodol e) 6beta-Hydrocodol f) Norhydrocodone Percent of 30 mg dose excreted per 12 hr for 24 hr. 2 healthy, adult volunteers, both 75 kg, both drug-free at beginning of study. DRUGS; NARCOTICS; METABOLITES; URINE	Cone, E.J. Darwin, W.D. Gorodetzky, C.W. 1979

Morphinan-6beta-ol, 4,5alpha-epoxy-3-methoxy-17-methyl- (8 CI)
Morphinan-6-ol, 4,5-epoxy-3-methoxy-17-methyl-, (5alpha,6beta)- (9 CI)
795-38-0
C18-H23-N-03
MW 301.37, 199-200 C (prisms from ethanol)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1075 Urine	Ingestion	GC/MS	2	a) 0-0.02% b) 0.02-0.04%	a) Not given b) Not given	a) 0-12 hr b) 12-24 hr Percent of 30 mg dose of codeine. 2 healthy, adult volunteers, both 75 kg, both drug-free at beginning of of study. DRUGS; NARCOTICS; METABOLITES; URINE	Cone, E.J. Darwin, W.D. Gorodetzky, C.W. 1979

Nickel
7440-02-0
Ni
AtW 58.71, MP 1455 C, BP 2837 C, VP 10 mm Hg at 2090 C, 100 mm Hg at 2370 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1076 Blood				3-8 ug/l	Not given	Values are approximations. Method of analysis not given. CHROMIUM; TIN; VANADIUM; NICKEL; SILICON; BLOOD; URINE; METALS; MINERAL METABOLISM; TRACE ELEMENTS	Hertz, W. 1974
1077 Blood		AAS		a) 0.4-5.4 ug/100 ml b) Not given	a) 1.7 ug/100 ml b) 5.3 ug/100 ml	a) Controls b) Autoworkers Autoworkers with high blood Pb levels. CADMIUM; NICKEL; MANGANESE; COPPER; CHROMIUM; METALS; OCCUPATIONAL HAZARDS; LEAD; LEVULINIC ACIDS; ENZYMES; HEMOGLOBINS; CARBON INORGANIC COMPOUNDS; AIR POLLUTION; AUTOMOTIVE; INDUSTRIAL PLANTS; BLOOD	Clausen, J. Bastogi, S.C. 1977b
1078 Blood		AAS	6	0.040-0.12 ug/g wet wt	0.069 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Nickel
7440-02-0
Ni
AtW 58.71, MP 1455 C, BP 2877 C, VP 10 mm Hg at 2090 C, 100 mm Hg at 2370 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1079 Blood, plasma		AAS	a) 701 b) 86	a) 5.6-8.8 ug/l b) 3.7-4.9 ug/l	a) 7.4 ug/l b) 4.2 ug/l	a) Ni refinery workers b) Controls Range is a range of means over 6 mo. Workers at Falconbridge Nikkelverk Aktiesselskap and students at Agder Regional University. NICKEL; METALS; OCCUPATIONAL HAZARDS; BLOOD; BLOOD PLASMA; URINE	Hogetveit, A.C. Barton, R.T. 1976
1080 Bone		AAS	12	0.13-0.35 ug/g wet wt	0.23 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM, COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Nickel
7440-02-0
Ni
AtW 58.71, MP 1455 C, BP 2837 C, VP 10 mm Hg at 2090 C, 100 mm Hg at 2370 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1081 Brain		AAS	7	0.015-0.11 ug/g wet wt	0.050 ug/g wet wt	Cerebrum samples Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
1082 Hair		AAS	10	0.8-15.6 ug/g	Not given	Average of 52% Ni extracted with 1% nitric acid. Specimens from donors aged 12 to 60 yr and from various geographic exposure areas. SODIUM; MAGNESIUM; POTASSIUM; CALCIUM; MANGANESE; ZINC; NICKEL; COPPER; IRON; CADMIUM; LEAD; HAIR; NUTRITIONAL DEFICIENCIES, BIOACCUMULATION; MINERAL METABOLISM; METALS; TRACE ELEMENTS	Hinners, T.A. Terrill, W.J. Kent, J.L. Colucci, A.V. 1974

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Nickel
7440-02-0
Ni
AtW 58.71, MP 1455 C, BP 2837 C, VP 10 mm Hg at 2090 C, 100 mm Hg at 2370 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
108j Intestine		AAS	a) 10 b) 10	a) 0.05-0.29 ug/g wet wt b) 0.040-0.30 ug/g wet wt	a) 0.13 ug/g wet wt b) 0.14 ug/g wet wt	a) Small intestine b) Large intestine Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
108a Kidney		X-ray Spectrometry	a) 6 b) 6	a) 3-36 ug/100 g dry wt b) 5-21 ug/100 g dry wt	a) 15 ug/100 g dry wt b) 12 ug/100 g dry wt	a) Subjects with Legionnaires' Disease b) Controls Autopsy material from victims of legionnaires' disease as well as controls is included. METALS; NICKEL; AUTOPSIES; LUNGS; KIDNEYS; DISEASES	Chen, J.R. Francisco, R.B. Miller, T.E. 1977

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Nickel
7440-02-0
Ni
AtW 58.71, MP 1455 C, BP 2837 C, VP 10 mm Hg at 2090 C, 100 mm Hg at 2370 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1085 Kidney		AAS	28	0.012-0.30 ug/g wet wt	0.098 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
1086 Liver		AAS	27	0.028-0.22 ug/g wet wt	0.078 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Nickel
7440-02-0
Ni
Atw 58.71, MP 1455 C, BP 2837 C, VP 10 mm Hg at 2090 C, 100 mm Hg at 2370 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1087 Liver		ES	10	Not given	2.60 ug/g	Arithmetic mean Geometric mean=1.92 ug/g Concentrations based on ash weight Samples from ten healthy adult males who were accident victims. METALS; SILVER; ALUMINUM; BARIUM; CADMIUM; COBALT; CHROMIUM;COPPER; IRON; MANGANESE; MOLYBDENUM; NICKEL; LEAD; TIN; STRONTIUM; TITANIUM; ZINC; LIVER	Perry, H.M., Jr. Perry, E.F. Hixon, B.B. 1977
1088 Lung		ES	a) 9 b) 9	a) 28-399 ug/100 g dry wt b) 5-31 ug/100 g dry wt	a) 117 ug/100 g dry wt b) 13 ug/100 g dry wt	a) Subjects with Legionnaires' Disease b) Controls Autopsy material from victims of legionnaires' disease as well as controls is included. METALS; NICKEL; AUTOPSIES; LUNGS; KIDNEYS; DISEASES	Chen, J.P. Francisco, R.P. Miller, T.E. 1977
1089 Lung		ES	26	0.1-25.4 ug/g dry wt	5.0 ug/g dry wt	None detected in 10 of the samples. Tissues from deceased West Virginia bituminous coal miners. METALS; MINERALS; BERYLLIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; NICKEL; TITANIUM; VANADIUM; ZINC; MINING; LUNGS; COAL; SILICA MATERIALS; INHALATION; WEST VIRGINIA; AUTOPSIES	Crable, J.V. Keenan, R.G. Kinser, R.E. Smallwood, A.W. Mauer, P.A. 1968

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Nickel
7440-02-0
Ni
Atw 58.71, MP 1455 C, BP 2837 C, VP 10 mm Hg at 2090 C, 100 mm Hg at 2370 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1090 Lung		AAS	30	0.038-0.44 ug/g wet wt	0.16 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
1091 Muscle		AAS	10	0.020-0.27 ug/g wet wt	0.099 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Nickel
7440-02-0
Ni
AtW 58.71, MP 1455 C, BP 2837 C, VP 10 mm Hg at 2090 C, 100 mm Hg at 2370 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1092 Placenta			58	a) Not given b) Not given c) 0 d) 0	a) 0.006 ug/g wet wt b) 0.018 ug/g wet wt c) 0 d) 0	a) All cities b) Augusta, GA c) Birmingham, AL d) Charlotte, NC Metal levels correlated with enzyme activities. Samples from 58 normal placentas collected immediately at delivery in hospitals in Charlotte, NC, Birmingham, AL and Augusta, GA. PLACENTA; MANGANESE; BARIUM; CADMIUM; SELENIUM; MERCURY; TIN; VANADIUM; BERYLLIUM; SILVER; COBALT; NICKEL; CHROMIUM; COPPER; ZINC; LEAD; IRON; PLATINUM; BORON; ARSENIC; LITHIUM; METALS; TRACE ELEMENTS; ENZYMES; NORTH CAROLINA; ALABAMA; GEORGIA	Karp, W.B. Robertson, A.F. 1977
1093 Skin		AAS	6	0.023-0.22 ug/g wet wt	0.10 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, Y. Kitamura, S. 1975

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Nickel
7440-02-0
Ni
AtW 58.71, MP 1455 C, BP 2837 C, VP 10 mm Hg at 2090 C, 100 mm Hg at 2370 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1094 Teeth		AAS	a) 4 b) 4 c) 26	a) 12-20 ppm b) 11-19 ppm c) Not given	a) 16 ppm b) 15 ppm c) 23 ppm	a) Teeth from fetuses, 1972-1973, enamel b) Teeth from fetuses, 1972-1973, dentine c) Teeth from cases of stillbirth and neonatal death, 1972-1973 There was an increase in nickel concentration in recent samples. LEAD; NICKEL; ZINC; CADMIUM; MANGANESE; IRON; METALS; TRACE ELEMENTS; TEETH; INFANTS; FETUS; UNITED KINGDOM	Stack, M.V. Burkitt, A.J. Nickless, G. 1976
1095 Tonsil		APDC-MIBK AAS	15	a) 4-36 ug/100 g wet wt b) 2-27 ug/100 g wet wt c) 2.1-10.0 ug/100 g wet wt	a) 14.3 plus or minus 9.9 ug/100 g wet wt b) 13.3 plus or minus 6.6 ug/100 g wet wt c) 5.6 plus or minus 2.7 ug/100 g wet wt	Specimens were biopsy material. The authors consider that variation in results may be biological in origin. Epithelial tissue, lymphoid tissue, and material in the crypts may differ in relative concentrations of Ni. Tonsils sampled were being removed from individuals with clinical symptoms of acute inflammations with fever at least 3-4 times a year. NICKEL; METALS; TONSILS	Torjussen, W. Andersen, I. Zachariasen, H. 1977

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Nickel
7440-02-0
Ni
AtW 58.71, MP 1455 C, BP 2837 C, VP 10 mm Hg at 2090 C, 100 mm Hg at 2370 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1096 Trachea		AAS	9	0.060-0.11 ug/g wet wt	0.092 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
1097 Urine				10-100 ug/l	Not given	Values are approximations. Method of analysis not given. CHROMIUM; TIN; VANADIUM; NICKEL; SILICON; BLOOD; URINE; METALS; MINERAL METABOLISM; TRACE ELEMENTS	Mertz, W. 1974
1098 Urine		Polarography NA		a) Not given b) Not given	a) < 0.100 mg/l b) < or = 0.02 mg/l	a) By neutron activation analysis b) By polarography Reference samples URINE; TRACE ELEMENTS; METALS; SELENIUM; COPPER; ARSENIC; NICKEL; CHROMIUM; COMPARATIVE EVALUATIONS	Gills, T.E. McClendon, L.T. Malenthal, E.J. Becker, D.A. Durst, R.A. LaFleur, P.D. 1974
1099 Urine		AAS	37	0.4-4.8 ug/l	2.04 ug/l	Unexposed persons. Comparison of results by different methods given. Occupationally unexposed residents of Nordrhein - Westfalen, Juelich area. NICKEL; URINE; COMPARATIVE EVALUATIONS	Ader, D. Stoeppler, M. 1977

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Nickel
7440-02-0
Ni
AtW 58.71, MP 1455 C, BP 2837 C, VP 10 mm Hg at 2090 C, 100 mm Hg at 2370 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1100 Urine		AAS	a) 729 b) 187	a) 15-134 ug/l b) 14-26 ug/l	a) 89 ug/l b) 21 ug/l	a) Ni refinery workers b) Controls Range of average values over 8 mo. Workers at Falconbridge Nikkelverk Aktieselskap and students at Agder Regional University. NICKEL; METALS; OCCUPATIONAL HAZARDS; BLOOD; BLOOD PLASMA; URINE	Hogetveit, A.C. Parton, R.T. 1976

Nicotine (8 CI)
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)- (9 CI)
54-11-5
C10-H14-N2
MW 162.23, MP <-80 C, BP 247 C (partial decomp) at 745 mm Hg, 123-125 C at 17 mm Hg, VP 1 mm Hg at 61.8 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1101 Milk	Inhalation	GC	15	a) < 20-512 ppb b) 0	a) 91 ppb b) 0	a) Smokers b) Nonsmokers Samples during Oct 1973-July 1974 were from white, urban, middle-class donors from metropolitan Nashville. Concentrations in milk should not contraindicate breast feeding by mother who smokes the infant exposure, however is not limited to that nicotine in milk. The results offer one further reason for mothers to reduce or stop smoking. SMOKING; MILK; INFANTS; NICOTINE; DRUGS	Ferguson, B.B. Wilson, D.J. Schaffner, W. 1976

Nitrate
14797-55-8
N-O?
MW 62.01

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1102 Urine	Ingestion	Colorimetry		a) 10-30 ppm b) 34-87 ppm c) 270-425 ppm	a) 19.6 ppm b) 64.0 ppm c) Not given	a) Diet free of vegetables and preserved meats b) Nitrate-supplemented drinking water c) High vegetable diet Data indicate less than half of ingested nitrate was recovered. Samples from adult, Caucasian volunteers, ranging in age from 22 to 56 years. Subjects all in good health. Study undertaken to support the thesis that patients with urinary tract infections may be suffering vesical exposure to nitrosamines because of the reduction of urinary nitrate to nitrite by infecting organisms. Ingestion of food and drinking water URINE; NITRATES; NITROSAMINES; DRINKING WATER; DIETS; VEGETABLES; MEAT; FOOD PRESERVATIVES; MEASUREMENT METHODS	Radomski, J.L. Palmiri, C. Hearn, W.L. 1978

Nitrogen
7727-37-9
N2
AtW 14.0067, MP -210.01 C, BP -195.79 C, VP 34 atm at -146.9 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1103 Urine		Kjeldahl	11	a) Not given b) Not given	a) 5.91 g/day b) 5.78 g/day	a) Losses on diet with 11.32 mg or 11.64 mg Zn daily b) Losses on diet with 14.52 mg or 14.88 mg Zn daily Samples from girls between 12.5 and 14.2 years of age in a metabolic unit of Purdue University. The lower level of zinc was probably not enough to maintain zinc balance in adolescent girls, but the higher level caused increased fecal losses of copper. ZINC; NITROGEN; COPPER; IRON; MANGANESE; URINE; FECES; MINERAL METABOLISM; TRACE ELEMENTS; DIETS; ADOLESCENTS; METALS	Greger, J.L. Zaikis, S.C. Abernathy, R.P. Bennett, O.A. Huffman, J. 1978

Nitrogen oxide [NO]
10102-43-9
N-O

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1704 Blood, whole		MS		a) Not given b) Not given c) Not given	a) 21.6 nmoles/ml b) 21.2 nmoles/ml c) 5.9 nmoles/ml	a) Nonsmokers b) Smokers c) Subject No.6 Values for c) presented separately because of considerable and consistent differences from those of a) and b). Research staff volunteers 30-66 yrs old. NITRIC OXIDE; AIR POLLUTION; SMOKING; TOBACCOS; BLOOD; HEMOGLOBINS	Freeman, G. Dyer, R.L. Juhos, L.T. St. John, G.A. Anbar, M. 1978

Norhydrocodone (No postings in CHEMLINE).

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1105 Urine	Ingestion	GC/MS	2	a) 0.05-0.06% b) 0.06-0.07%	a) Not given b) Not given	a) 0-12 hr b) 12-24 hr Percent of 30 mg dose of codeine. 2 healthy, adult volunteers, both 75 kg, both drug-free at beginning of of study. DRUGS; NARCOTICS; METABOLITES; URINE	Cone, E.J. Darwin, W.D. Gorodetzky, C.W. 1979

p-Dioxane (9 CI)
1,4-Dioxane (9 CI)
123-91-1
C4-H8-O2
MW 88.10, MP 11.80 C, BP 101.1 C, VP 40 mm Hg at 25.2 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1106 Urine		GC/MS	5	3.0-4.3 umol/l	3.5 umol/l	Employees at the dioxane plant of The Dow Chemical Company in Freeport, Texas. Vapors in work environment URINE; DIOXANES; ACETIC ACID; OCCUPATIONAL HAZARDS; METABOLISM; METABOLITES; INDUSTRIAL PLANTS; TEXAS	Young, J.D. Braun, W.H. Gehring, P.J. Horvath, B.S. Daniel, R.L. 1976

Palladium
7440-05-3
Pd
AtW 106.4, MP 1555 C, BP 3167 C, VP 1 mm Hg at 1970 C, 10 mm Hg at 2290 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1107 Blood		AAS		Not given	0.003 ug/ml	From 10 determinations on spiked sample. PLATINUM; PALLADIUM; LEAD; METALS; BLOOD; URINE; FECES; HAIR; MEASUREMENT METHODS; TRACE ELEMENTS	Tillery, J.B. Johnson, D.E. 1975

PCT (No postings in CHEMLINE).
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1106 Adipose		GC	20	0.?-2.? ppm	0.6 ppm	Samples obtained from the hospitals in metropolitan Tokyo ADIPOSE TISSUE; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; POLYCHLORINATED TERPHENYLS; JAPAN	Doguchi, M. Fukano, S. Ushio, F. 1974
1109 Adipose		GC	30	0.04-9.20 ppm	1.11 ppm	Fat basis Fat samples from the Tokyo metropolitan area. ADIPOSE TISSUE; BIPHENYL COMPOUNDS; CHLORINE ORGANIC COMPOUNDS; FOODS; BLOOD; FISHES; MEAT; DIETS; POLYCHLORINATED TERPHENYLS; BIOACCUMULATION; JAPAN; WATER POLLUTION	Doguchi, M. 1977
1110 Adipose		CC GC/MS	30	0.04-9.20 ppm	1.11 ppm	30 samples of adipose tisue obtained from 18 males and 12 females in Tokyo in 1974. Blood collected from 10 subjects in 1975. BLOOD; ADIPOSE TISSUE; PESTICIDES; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; JAPAN; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED TERPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE	Fukano, S. Doguchi, M. 1977

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PCT (No postings in CHEMLINE).
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1973 Blood			10	1.1-9.4 ppb	5.32 ppb	In all but one subject, no definite changes in PCB levels in the blood were recognizable between 1973 and 1975. 10 samples of adipose tissue obtained from 18 males and 12 females in Tokyo in 1974. Blood collected from 10 subjects in 1975. BLOOD; ADIPOSE TISSUE; PESTICIDES; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; JAPAN; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED TERPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE	Fukano, S. Doguchi, M. 1977
1972 Blood, whole		GC	27	0.7-19.6 ppb	5.0 ppb	Levels of PCT residues higher than those of PCB's in spite of lesser industrial output of the former. Samples from 19 male and 8 female volunteers, 21 to 57 yr, Tokyo, Japan. BLOOD; JAPAN; PESTICIDES	Doguchi, M. Fukano, S. 1975
1973 Blood, whole		GC	27	0.7-19.6 ppb	5.0 ppb	Fat samples from the Tokyo metropolitan area. ADIPOSE TISSUE; BIPHENYL COMPOUNDS; CHLORINE ORGANIC COMPOUNDS; FOODS; BLOOD; FISHES; MEAT; DIETS; POLYCHLORINATED TERPHENYLS; BIOACCUMULATION; JAPAN; WATER POLLUTION	Doguchi, M. 1977

Penicillin (VAN)
1406-05-9
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1114 Blood, serum	Injection	Microbiological	a) 4 b) 7 c) 5 d) 3	a) 0.9-3.2 ug/ml b) 0.75-4.4 ug/ml c) 0.8-5.3 ug/ml d) 6.3-7.9 ug/ml e) 1.4-28 ug/ml	a) Not given b) Not given c) Not given d) Not given e) 8.8 ug/ml	a) 600,000 IU (penicillin & procaine)/day for 10 days without probenecid b) 600,000 IU/day with probenecid (500 mg/6 hr by mouth) c) 1.2 million IU/day with probenecid d) 2.4 million IU/day with probenecid e) 500,000 IU/6 hr with probenecid levels 2-6 hr after treatment. Patients suffering from late-acquired or congenital syphilis. DRUGS; ANTIBIOTICS; BLOOD SERUM; CASE HISTORIES	Dunlop, E.M.C. Al-Egaily, S.S. Houang, E.T. 1979
1115 Cerebrospinal fluid	Injection	Microbiological	a) 4 b) 3 c) 5 d) 3	a) <0.015-0.015 ug/ml b) 0.016-0.29 ug/ml c) 0.013-0.12 ug/ml d) 0.12-0.6 ug/ml e) 0.02-1.5 ug/ml	a) Not given b) Not given c) Not given d) Not given e) 0.35 ug/ml	a) 600,000 IU (penicillin & procaine)/day for 10 days without probenecid b) 600,000 IU/day with probenecid (500 mg/6 hr by mouth) c) 1.2 million IU/day with probenecid d) 2.4 million IU/day with probenecid e) 500,000 IU/6 hr with probenecid Serum levels 2-6 hr after treatments Patients suffering from late-acquired or congenital syphilis. DRUGS; ANTIBIOTICS; BLOOD SERUM; CASE HISTORIES	Dunlop, E.M.C. Al-Egaily, S.S. Houang, E.T. 1979

Phenethylamine, alpha-methyl-3,4-(methylenedioxy)- (8 CI)
1,3-Benzodioxole-5-ethanamine, alpha-methyl- (9 CI)
4764-17-4
C10-H13-N-O2
MW 179

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1116 Blood	Ingestion	GC/MS Colorimetry	1	Not applicable	19 mg/l	Autopsy specimen of 24 yr old white male who died 4 hr after taking a 850 mg overdose. Methaqualone (2 mg/l) was also present (dose 600 mg 6-8 hr before death). Profuse sweating, irrational speech, muscle spasms, coma, death Epicardial, subendocardial, gastric, and subpleural petechiae DRUGS; DRUG ABUSE; BLOOD; URINE; CASE HISTORIES; MISSOURI	Poklis, A. Mackell, M.A. Drake, W.K. 1979
1117 Urine	Ingestion	GC/MS Colorimetry	1	Not applicable	168 mg/l	Autopsy specimen of 24 yr old white male who died 4 hr after taking a 850 mg overdose. Profuse sweating, irrational speech, muscle spasms, coma, death Epicardial, subendocardial, gastric, and subpleural petechiae DRUGS; DRUG ABUSE; BLOOD; URINE; CASE HISTORIES; MISSOURI	Poklis, A. Mackell, M.A. Drake, W.K. 1979

Phenol
108-95-2
C6-H6-O
MW 94.11, MP 40.85 C, BP 182 C, VP 1 mm Hg at 40.1 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1118 Urine	Inhalation	Colorimetry	51	a) 3.3-15.0 mg/l b) Not given c) 21-40 mg/l d) 41-60 mg/l e) Not given f) Not given	a) 8.56 mg/l b) < 20 mg/l c) Not given d) Not given e) > 60 mg/l f) < 10 mg/l	a) Controls b) 11.6% workers c) 41.3% workers d) 41.3% workers e) 5.8% workers f) 5.8% workers Petrol pump workers at 21 filling stations in and around Lucknow, during summer. Headache, fatique, disturbed sleep, loss of memory, giddiness and general weakness. PHENOLS; GASOLINE; OCCUPATIONAL HAZARDS; HEALTH HAZARDS; URINE; INDIA; BENZENES	Rao, G.S. Dhasmana, A. Pandya, K.P. Zaidi, S.H. 1975

Phenol, pentachloro-
87-86-5
C6-H-C15-O
MW 266.35, MP 190-191 C, BP 309-310 C (decomp), VP 40 mm Hg at 211.2 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1119 Blood, serum			3,568	Not given	0.5 ppb	Normal subjects Individuals attending the health appraisal center at the Pacific Health Research Institute in July 1969 to December 1970. CHLORINE ORGANIC COMPOUNDS; PESTICIDES; BLOOD SERUM; CHOLESTEROLS; HAWAII; BIOACCUMULATION	Rashad, M.N. Mi, M.P. Kleamer, H.W. Budy, A.M. Reichert, E.L. 1976
1120 Blood, serum	Ingestion		1	a) Not applicable b) Not applicable c) Not applicable	a) 150 ppm b) 85 ppm c) 12 ppm	a) 5 hr postingestion b) Day 7 c) Day 37 Gastric lavage done, also forced diuresis. 71 year old Japanese male, intentionally ingested weed killer. Pyrexia, diaphoresis, hyperkinesis, muscle twitching, tremors, epigastric tenderness, leg pain, tachypnea, tachycardia. Weed killer LAVAGE; DIURETICS; BLOOD SERUM; URINE; PHENOLS; CHLORINE ORGANIC COMPOUNDS; PESTICIDES; HEALTH HAZARDS; PENTACHLOROPHENOL	Haley, J.J. 1977

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Phenol, pentachloro-
87-86-5
C6-H-Cl5-O
MW 266.35, MP 190-191 C, BP 309-310 C (decomp), VP 40 mm Hg at 211.2 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1121 Blood, serum		GC-EC	6	a) 372.9-1979.0 ppb b) 348.8-1508.0 ppb c) 610.0-1746.0 ppb d) 702.5-3550.0 ppb e) 705.0-3963.0 ppb	a) 967.9 ppb b) 769.1 ppb c) 1088.8 ppb d) 1820.2 ppb e) 2215.8 ppb	a) January, 1972 b) February, 1972 c) March, 1972 d) April, 1972 e) May, 1972 Occupationally exposed workers. Control values were 38-68 ppt. Adult males aged 20-54 yr with 2 to 11 yr exposure. CHLORINE ORGANIC COMPOUNDS; PESTICIDES; BLOOD SERUM; URINE; INDUSTRIAL POLLUTION; OCCUPATIONAL HAZARDS; IDAHO	Wyllie, J.A. Gabica, J. Benson, W.W. Yoder, J. 1975
1122 Urine			1	a) Not applicable b) 0.9-17.1 ppm c) Not applicable	a) 2.3 ppm b) 4.2 ppm c) 2.0 ppm	a) Day 1 b) Days 4-6 - forced diuresis c) Day 15-16 71 year old Japanese male, intentionally ingested weed killer. Pyrexia, diaphoresis, hyperkinesis, muscle twitching, tremors, epigastric tenderness, leg pain, tachypnea, tachycardia. Weed killer LAVAGE; DIURETICS; BLOOD SERUM; URINE; PHENOLS; CHLORINE ORGANIC COMPOUNDS; PESTICIDES; HEALTH HAZARDS; PENTACHLOROPHENOL	Haley, J.J. 1977

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Phenol, pentachloro-
87-86-5
C6-H-Cl5-O
MW 266.35, MP 190-191 C, BP 309-310 C (decomp), VP 40 mm Hg at 211.2 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1123 Urine		GC-EC	6	a) 112.2-760.0 ppb b) 44.4-130.0 ppb c) 41.3-124.6 ppt d) 42.0-334.8 ppb e) 53.0-315.1 ppb	a) 312.0 ppb b) 96.7 ppb c) 84.0 ppb d) 155.8 ppb e) 170.4 ppb	a) January, 1972 b) February, 1972 c) March, 1972 d) April, 1972 e) May, 1972 Occupationally exposed workers. Control values were 2.6-4.3 ppb. Adult males aged 20-54 yr with 2-11 yr exposure. CHLORINE ORGANIC COMPOUNDS; PESTICIDES; BLOOD; URINE; INDUSTRIAL POLLUTION; OCCUPATIONAL HAZARDS; IDAHO	Wyllie, J.A. Gabica, J. Benson, W.W. Yoder, J. 1975

Phenol, tert-butyl-4-methoxy- (8 CI)
Phenol, (1,1-dimethylethyl)-4-methoxy- (9 CI)
25013-16-5
C11-H16-O2

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1124 Blood, plasma	Ingestion	GC	a) 1 b) 1	a) Not applicable b) Not applicable	a) 550 ng/ml b) 220 ng/ml	a) Peak 2 hr after 100 mg dose (220 ng/ml at 0.5 hr and 60 ng/ml at 8 hr) b) Peak 0.5 hr after 100 mg dose (95 ng/ml at 2 hr and 60 ng/ml at 8 hr) 2 healthy male volunteers weighing 55 and 60 Kg FOOD ADDITIVES; BLOOD PLASMA; URINE; MEASUREMENT METHODS	El-Rashidy, S. Niazi, S. 1979
1125 Urine	Ingestion	GC	2	51-68%	Not applicable	Percent of 100 mg dose excreted in 36 hr 2 healthy male volunteers weighing 55 and 60 kg FOOD ADDITIVES; BLOOD PLASMA; URINE; MEASUREMENT METHODS	El-Rashidy, S. Niazi, S. 1979

Phenol, 2,2'-methylenebis(3,4,6-trichloro-
70-30-4
C13-H6-Cl6-O2
MW 406.92, MP 164-165 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1126 Milk		GC GC-EC	a) 6 b) 5	a) "trace" (<2 ppb)-9.5 ppb b) undetectable-8.3 ppb	a) 5.7 ppb b) Not given	a) Collected before FDA restrictions b) Collected after FDA restrictions In b), 1 sample had 8.3 ppb, 4 had "trace" or undetectable levels. Six human milk samples obtained in 1973 and 5 samples obtained in 1973 from white, urban middle-class nursing mothers MILK; CHLORINATED HYDROCARBONS; LACTATION; DRUGS; HEXACHLOROPHENE	West, P.W. Wilson, D.J. Schaffner, W. 1975

Phenothiazine, 10-(2-(dimethylamino)propyl)- (8 CI)
10H-Phenothiazine-10-ethanamine, N,N,alpha-trimethyl- (9 CI)
60-87-7
C17-H20-N2-S

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1127 Liver		GC	1	Not applicable	9 ug/g	Samples of blood, liver and urine from fatal intoxications were collected at autopsy. AUTOPSIES; BLOOD; URINE; LIVER; DRUGS	Norheim, G. 1976

Phenothiazine, 10-(2-(1-methyl-2-piperidyl)ethyl)-2-(methylsulfinyl)- (8 CI)
10H-Phenothiazine, 10-[2-(1-methyl-2-piperidinyl)ethyl]-2-(methylsulfinyl)- (9 CI)
5588-33-0
C21-H26-N2-O-S2

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1128 Blood, plasma		GC	5	0.43-1.18 ug/ml	Not given	Maximum levels corresponding to periods of ECG abnormalities. Acute schizophrenic patients (age 21-55) on thioridazine therapy. DRUGS; BLOOD PLASMA; METABOLITES; CASE HISTORIES	Gottschalk, L.A. Dinovo, E. Biener, R. Nandi, S.P. 1978

Phenothiazine, 10-(2-(1-methyl-2-piperidyl)ethyl)-2-(methylsulfonyl)- (8 CI)
10H-Phenothiazine, 10-(2-(1-methyl-2-piperidinyl)ethyl)-2-(methylsulfonyl)- (9 CI)
14759-06-9
C21-H26-N2-O2-S2

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1129 Blood, plasma		GC	5	0.08-0.23 ug/ml	Not given	Maximum levels corresponding to periods of ECG abnormalities. Acute schizophrenic patients (age 21-55) on thioridazine therapy. DRUGS; BLOOD PLASMA; METABOLITES; CASE HISTORIES	Gottschalk, L.A. Dinovo, E. Biener, R. Naadi, B.R. 1978

Phenothiazine, 10-(2-(1-methyl-2-piperidyl)ethyl)-2-(methylthio)- (8 CI)
10H-Phenothiazine, 10-(2-(1-methyl-2-piperidinyl)ethyl)-2-(methylthio)- (9 CI)
50-52-2
C21-H26-N2-S2
MW 370.56, MP 72-74 C, BP 230 C at 0.02 mm Hg

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1130 Blood	Ingestion	Fluorometry	8	0.8-13.0 mg/l	4.8 mg/l	Samples from eight fatalities from accidental or suicidal drug overdose. Most of these persons were undergoing thioridazine therapy at time of demise. DRUGS; DRUG THERAPY; DRUG ABUSE; SUICIDE; FORENSIC MEDICINE; BRAIN; BLOOD; URINE; LIVER	Baselt, R.C. Wright, J.A. Gross, E.M. Hine, C.H. 1978
1131 Blood, plasma		GC	5	a) 0.22-0.93 ug/ml b) 0.41-1.19 ug/ml c) 0.08-0.23 ug/ml d) 0.85-1.55 ug/ml	a) Not given b) Not given c) Not given d) Not given	a) Thioridazine b) Mesoridazine (metabolite) c) Sulforidazine (metabolite) d) Thioridazine ring oxide (metabolite) Maximums corresponding to periods of ECG abnormalities. Acute schizophrenic patients (age 21-55) on thioridazine therapy. DRUGS; BLOOD PLASMA; METABOLITES; CASE HISTORIES	Gottschalk, L.A. Dinovo, E. Biener, R. Wandi, B.B. 1978
1132 Brain	Ingestion	Fluorometry	2	2.2-6.8 mg/kg	Not given	Samples from eight fatalities from accidental or suicidal drug overdose. Most of these persons were undergoing thioridazine therapy at time of demise. DRUGS; DRUG THERAPY; DRUG ABUSE; SUICIDE; FORENSIC MEDICINE; BRAIN; BLOOD; URINE; LIVER	Baselt, R.C. Wright, J.A. Gross, E.M. Hine, C.H. 1978

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Phenothiazine, 10-[2-(1-methyl-2-piperidyl)ethyl]-2-(methylthio)- (8 CI)
10H-Phenothiazine, 10-[2-(1-methyl-2-piperidinyl)ethyl]-2-(methylthio)- (9 CI)
50-52-2
C21-H26-N2-S2
MW 370.56, MP 72-74 C, BP 230 C at 0.02 mm Hg

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1133 Liver	Ingestion	Fluorometry	8	25-513 mg/kg	109 mg/kg	Samples from eight fatalities from accidental or suicidal drug overdose. Most of these persons were undergoing thioridazine therapy at time of demise. DRUGS; DRUG THERAPY; DRUG ABUSE; SUICIDE; FORENSIC MEDICINE; BRAIN; BLOOD; LIVER; URINE	Baselt, R.C. Wright, J.A. Gross, E.M. Hine, C.H. 1978
1134 Urine	Ingestion	Fluorometry	5	1.7-236 mg/l	56.74 mg/ml	Samples from eight fatalities from accidental or suicidal drug overdose. Most of these persons were undergoing thioridazine therapy at time of demise. DRUGS; DRUG THERAPY; DRUG ABUSE; SUICIDE; FORENSIC MEDICINE; BRAIN; BLOOD; LIVER; URINE	Baselt, R.C. Wright, J.A. Gross, E.M. Hine, C.H. 1978

Phenothiazine, 10-(2-(1-methyl-2-piperidyl)ethyl)-2-(methylthio)-, 5-oxide (8 CI)
10H-Phenothiazine, 10-(2-(1-methyl-2-piperidinyl)ethyl)-2-(methylthio)-, 5-oxide (9 CI)
7776-05-8
C21-H26-N2-O-S2

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1135 Blood, plasma		GC	5	0.85-1.55 ug/ml	Not given	Maximum levels corresponding to periods of ECG abnormalities Acute schizophrenic patients (age 21-55) on thioridazine therapy. DRUGS; BLOOD PLASMA; METABOLITES; CASE HISTORIES	Gottschalk, L.A. Dinovo, E. Biener, R. Nandi, B.R. 1978

Phenothiazine, 2-chloro-10-(3-(dimethylamino)propyl)- (8 CI)
10H-Phenothiazine-10-propanamine, 2-chloro-N,N-dimethyl- (9 CI)
50-53-3
C17-H19-Cl-N2-S

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1136 Bile			1	Not applicable	28.0 mg/l	3 other drugs also present. Samples from coroners' autopsies from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, H. 1979
1137 Blood			1	a) Not applicable b) Not applicable	a) 0.5 mg/l b) 6.0 mg/l	a) Peripheral blood b) Liver blood 3 other drugs also present 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, H. 1979

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1118 Blood, serum	Ingestion	Colorimetry	9	a) 3.44-4.56 mg/100 ml b) 3.94-4.96 mg/100 ml	a) 3.76 mg/100 ml b) 4.43 mg/100 ml	a) Control diet b) High Phosphorus diet Phosphate was measured as P. Samples from graduate students 24-36 years old. Introduction of foods containing phosphate additives associated with intestinal distress, mild diarrhea. Enhanced parathyroid activity PHOSPHORUS; CALCIUM; MINERALS; DIETS; FOODS; FOOD ADDITIVES; BLOOD SERUM; URINE; NUTRITIONAL DISORDERS; PARATHYROID DYSFUNCTION; ADENOSINE MONOPHOSPHATE; ILLINOIS	Bell, R.R. Draper, H.H. Tzeng, D.Y.M. Shin, H.K. Schmidt, G.R. 1977
1139 Skin		Colorimetry	27	a) 506-915 mg/kg dry defatted wt b) 511-967 mg/kg dry defatted wt c) 448-980 mg/kg dry defatted wt d) 171-302 mg/kg dry defatted wt	a) 642 mg/kg dry defatted wt b) 731 mg/kg dry defatted wt c) 612 mg/kg dry defatted wt d) 242 mg/kg dry defatted wt	a) 20-29 yr b) 30-39 yr c) 40-59 yr d) 60 yr and above 4 mm punch biopsies obtained from normal subjects ranging in age from 20-76 yr. SKIN; CALCIUM; PHOSPHORUS; MAGNESIUM; COMPARATIVE EVALUATIONS; METALS; AGE	Subryan, V.L. Solomons, C.C. Gordon, S.G. Neldner, K.H. Reeve, E.B. 1975

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1140 Urine	Ingestion	Colorimetry	8	a) 277-527 mg/24 h b) 534-1,636 mg/24 h	a) 427 mg/24 h b) 1,010 mg/24 h	a) Control diet b) High-phosphorus diet Average P content was 979 mg during control period and 2'24 mg during test period. Phosphate was measured as P. Samples from graduate students 24-36 years old. Introduction of foods containing phosphate additives associated with intestinal distress, mild diarrhea. Enhanced parathyroid activity PHOSPHORUS; CALCIUM; MINERALS; DIETS; FOODS; FOOD ADDITIVES; BLOOD SERUM; URINE; NUTRITIONAL DISORDERS; PARATHYROID DYSFUNCTION; ADENOSINE MONOPHOSPHATE; ILLINOIS	Bell, R.R. Draper, H.H. Tzeng, D.Y.M. Shin, H.K. Schmidt, G.R. 1977

Phosphoric acid, diethyl ester
598-02-7
C4-H11-O4-P.

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1141 Urine		GC	a) 107 b) 100 c) 9	Maximum value: a) 0.07 ppm b) 0.01 ppm c) 0.05 ppm	a) 0.018 ppm b) 0.018 ppm c) 0.019 ppm	a) Persons within spray area - after spray b) Controls c) Mosquito control employees 107 people in the Dover, Delaware area, which was sprayed with naled for mosquito control. 100 people in the adjacent area served as controls. MOSQUITOES; PESTICIDES; OCCUPATIONAL HAZARDS; URINE; ORGANOPHOSPHATES; METABOLITES; INSECTICIDES	Katz, F.N. Strassman, S.C. 1977

Phosphoric acid, diethyl ester
813-78-5
C2-H7-O4-P

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1142 Urine		GC	a) 51 b) 56 c) 100 d) 9	Maximum value: a) 0.07 ppm b) 0.50 ppm c) 0.80 ppm d) 0.07 ppm	a) 0.004 ppm b) 0.014 ppm c) 0.005 ppm d) 0.024 ppm	a) Persons within spray area inside homes - after spray b) Persons within spray area, outside - after spray c) Controls d) Mosquito control employees 107 people in the Dover, Delaware area, which was sprayed with malad for mosquito control. 100 people in the adjacent area served as controls. MOSQUITOES; PESTICIDES; OCCUPATIONAL HAZARDS; URINE; ORGANOPHOSPHATES; METABOLITES; INSECTICIDES	Kutz, F.W. Strassman, S.C. 1977
1143 Urine		GC	8	a) 1.3-7.9 ppm b) 11.0-36.3 ppm c) 7.8-26.4 ppm d) 3.8-29.8 ppm e) 9.2-33.5 ppm f) <0.1 ppm	a) 3.5 ppm b) 19.6 ppm c) 17.2 ppm d) 14.9 ppm e) 20.1 ppm f) 0.1 ppm	a) Day 1 of exposure b) Day 2 c) Day 3 d) Day 4 e) Day 5 f) Control Compound is a metabolite of the pesticide Guthion. Healthy adult male peach grove workers (age 18-57) of Mexican extraction. Peach grove PESTICIDES; METABOLITES; URINE	Richards, D.M. Kraus, J.F. Kurtz, P. Borhani, N.O. Mull, R. Winterlin, W. Kilgore, W.W. 1978

Phosphorodithioic acid, O,O-diethyl ester
298-06-6
C4-H11-O2-P-S2

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1984 Urine		GC	a) 107 b) 100 c) 9	a) 0.10 ppm b) 0.11 ppm c) 0.03 ppm Maximum value	a) 0.007 ppm b) 0.010 ppm c) 0.009	a) Persons within spray area - after spray b) Controls c) Mosquito control employees 107 people in the Dover, Delaware area, which was sprayed with naled for mosquito control. 100 people in the adjacent area served as controls. MOSQUITOES; PESTICIDES; OCCUPATIONAL HAZARDS; URINE; ORGANOPHOSPHATES; METABOLITES; INSECTICIDES	Futz, F.W. Strassman, S.C. 1977

Phosphorodithioic acid, O,O-dimethyl ester
756-80-9
C2-H7-O2-P-S2

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1345 Urine		GC	a) 107 b) 100 c) 9	Maximum value: a) 0.26 ppm b) 0 c) 0.05 ppm	a) 0.002 ppm b) 0 c) 0.007 ppm	a) Persons within spray area - after spray b) Controls c) Mosquito control employees 107 people in the Dover, Delaware area, which was sprayed with naled for mosquito control. 100 people in the adjacent area served as controls. MOSQUITOES; PESTICIDES; OCCUPATIONAL HAZARDS; URINE; ORGANOPHOSPHATES; METABOLITES; INSECTICIDES	Kutz, F.W. Strassman, S.C. 1977

Phosphorothioic acid, O,O-diethyl ester
2465-65-8
C4-H11-O3-P-S

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1146 Urine		GC	a) 107 b) 100 c) 9	Maximum value: a) 0.30 ppm b) 0.18 ppm c) 0.14 ppm	a) 0.028 ppm b) 0.034 ppm c) 0.039 ppm	a) Persons within spray area - after spray b) Controls c) Mosquito control employees 107 people in the Dover, Delaware area, which was sprayed with naled for mosquito control. 100 people in the adjacent area served as controls. MOSQUITOES; PESTICIDES; OCCUPATIONAL HAZARDS; URINE; ORGANOPHOSPHATES; METABOLITES; INSECTICIDES	Hutz, R.W. Strassman, S.C. 1977

Phosphorothioic acid, O,O-dimethyl ester
1112-38-5
C2-H7-O3-P-S

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1147 Urine		GC	a) 107 b) 100 c) 9	Maximum value: a) 0.03 ppm b) 1.60 ppm c) 0.04 ppm d) 0.16 ppm	a) 0.004 ppm b) 0.041 ppm c) 0.005 ppm d) 0.032 ppm	a) Persons within spray area inside homes - after spray b) Persons within spray area, outside - after spray c) Controls d) Mosquito control employees 107 people in the Dover, Delaware area, which was sprayed with maled for mosquito control. 100 people in the adjacent area served as controls. MOSQUITOES; PESTICIDES; OCCUPATIONAL HAZARDS; URINE; ORGANOPHOSPHATES; METABOLITES; INSECTICIDES	Kutz, F.W. Strassman, S.C. 1977
1148 Urine		GC	8	a) 0.8-8.7 ppm b) 6.2-34.4 ppm c) 7.4-17.9 ppm d) 2.7-36.9 ppm e) 4.9-32.5 ppm f) 0.1 ppm	a) 3.7 ppm b) 16.8 ppm c) 12.9 ppm d) 17.8 ppm e) 19.2 ppm f) 0.1 ppm	a) First day of exposure b) Second day c) Third day d) Fourth day e) Fifth day f) Control Concentrations of a metabolite of the organophosphate pesticile Guthion. Mexican peach grove workers (age 18-57 yr old). Peach grove PESTICIDES; METABOLITES; URINE	Richards, D.M. Kraus, J.F. Kurtz, P. Borhani, N.O. Hull, R. Winterlin, W. Kilgore, W.W. 1978

Phosphorus
7723-14-0
P
AtW 30.97376, MP 44.1 C, BP 280 C, VP 10 mm Hg at 127 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1149 Blood, serum			1	2.7 - 3.1 mg/dl	2.9 mg/dl	6 different determinations, 10/7/72 - 9/18/73. Inorganic P measured. 74-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES	Nogawa, K. Ishizaki, A. Fukushima, M. 1975
1150 Teeth		Calorimetry	a) 10 b) 16 c) 12	a) Not given b) Not given c) Not given	a) 11.6 ug/g dentin b) 10.5 ug/g dentin c) 11.3 ug/g dentin	a) 17th Century Hopi b) Contemporary Hopi c) Contemporary California Samples from individual skeletons of Hopi Indians dated 17th century, samples from contemporary Hopi Indian children in Arizona, and samples from children in suburban Northern California. LEAD; STRONTIUM; ZINC; COPPER; MERCURY; CALCIUM; PHOSPHORUS; METALS; TRACE ELEMENTS; MINERALS; TEETH; ARIZONA; CALIFORNIA; DIETS; BIOACCUMULATION; CHILDREN	Kuhnlein, H.V. Calloway, D.H. 1977

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Phosphorus
7723-14-0
P
AtW 30.97376, MP 44.1 C, BP 280 C, VP 10 mm Hg at 127 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1151 Urine			a) 3 b) 3 c) 2 d) 2	a) 652-801 mg/24 hr b) 649-913 mg/24 hr c) 880-1163 mg/24 hr d) 545-979 mg/24 hr	a) 731.3 mg/24 hr b) 769 mg/24 hr c) 1021.5 mg/24 hr d) 762 mg/24 hr	a) Low fiber diet b) Low fiber diet plus cellulose c) High fiber diet d) High fiber diet plus cellulose Plasma concentrations also determined Iranian subjects ingested low- or high-fiber diets, plus a supplement of Whatman #3 filter paper dispersed in apple compote. ZINC; CALCIUM; MAGNESIUM; PHOSPHORUS; FECES; URINE; IRAN; DIETS; CELLULOSE; METABOLISM; FIBERS; BLOOD PLASMA; METALS	Iswail-Beigi, F. Reinhold, J.G. Faraji, B. Abadi, P. 1977
1152 Urine			2	a) 198 - 251 mg/l b) 117 - 527 mg/l	a) 216.1 mg/l b) 279.8 mg/l	a) 74-year-old woman, 6 different observations, 9/25/72 - 11/1/73 b) 80-year-old woman, 6 different observations, 3/15/73 - 2/7/74 Women with Itai-itai disease, in the Ichi River basin Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES	Nogawa, K. Ishizaki, A. Fukushima, M. 1975

Phthalic acid, bis(2-ethylhexyl) ester (8 CI)
1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (9 CI)
117-81-7
C24-H38-O4
MW 390.54

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1153 Adipose		CC GC-EC		0.01 ppm-8.00 ppm	Not given	Values from histogram Specimens from autopsies of accident victims. PHTHALIC ACIDS; ADIPOSE TISSUE; AUTOPSIES; BIOACCUMULATION; CANADA	Mes, J. Coffin, D.E. Campbell, D.S. 1974

Phthalic acid, dibutyl ester (8 CI)
1,2-Benzenedicarboxylic acid, dibutyl ester (9 CI)
84-74-2
C16-H22-O4
MW 278.34, BP 340 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1154 Adipose		GC GC-EC		0-1.00 ppm	Not given	Values from histogram Specimens from autopsies of accident victims. PHTHALIC ACIDS; ADIPOSE TISSUE; AUTOPSIES; BIOACCUMULATION; CANADA	Mes, J. Coffin, D.E. Campbell, D.S. 1974

Piperidine, 1-(1-phenylcyclohexyl)-
77-10-1
C17-H25-N
MW 243.38, MP 46 C, BP 135-137 C at 1 mm Hg

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1355 Bile		GC	1	Not applicable	2.1 mg/l	Death due to acute phencyclidine intoxication Cases investigated by the Maryland Medical Examiner in 1976 and 1977 in which phencyclidine was found: 36 whites, 1 black, 32 males, 5 females, age range, 16 to 42 yr. Causes of death included gunshot wounds, smoke and soot inhalation, drowning, drug intoxication. DRUGS; ALCOHOLS; DIAZEPAMS; CARBON INORGANIC COMPOUNDS; NARCOTICS; SEDATIVES; BLOOD; URINE; BILE; BRAIN; LIVER; KIDNEYS; DRUG ABUSE; AUTOPSIES; CASE HISTORIES; MARYLAND	Caplan, Y.H. Orloff, K.G. Thompson, B.C. Fisher, R.S. 1979
1356 Blood		GC/MS	a) 7 b) 33	a) 2.6-19.0 ug/ml b) 0.05-1.00 ug/ml	a) 8.33 ug/ml b) 0.44 ug/ml	a) Acute toxicity. (Highest value was for case of suicide) b) Drug-related fatalities Samples from drug-related homicides, suicides, fatal accidents in California, age range 17-38 yr. Autopsies did not indicate specific involvement of PCP. DRUGS; DRUG ABUSE; BLOOD; LIVER; CASE HISTORIES; SUICIDE; CALIFORNIA	Noguchi, T.T. Nakamura, G.R. 1978

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Piperidine, 1-(1-phenylcyclohexyl)-
77-10-1
C17-H25-N
MW 243.38, MP 46 C, BP 135-137 C at 1 mm Hg

(CONTINUED)

TISSUE	PEPOSITE POOLS	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1157 Blood		GC	a) 36 b) 2	a) 0.02-0.76 mg/l b) 1.5-25 mg/l	a) 0.18 mg/l (median) b) 13 mg/l	a) Deaths, primary cause not phencyclidine b) Deaths, acute phencyclidine intoxication. Cases investigated by the Maryland Medical Examiner in 1976 and 1977 in which the drug was found: 36 whites, 1 black, 32 males, 5 females, age range, 16 to 42 yr. Causes of death included gunshot wounds, smoke and soot inhalation, drowning, drug intoxication. DRUGS; ALCOHOLS; DIAZEPAMS; CARBON INORGANIC COMPOUNDS; NARCOTICS; SEDATIVES; BLOOD; URINE; BILE; BRAIN; LIVER; KIDNEYS; DRUG ABUSE; AUTOPSIES; CASE HISTORIES; MARYLAND	Caplan, Y.H. Orloff, M.G. Thompson, B.C. Fisher, R.S. 1979
1158 Blood, whole		GC/MS	15	9-227 ng/ml	Not given	Males (age 18-25 yr) arrested for driving while intoxicated by drug overdose Overdose symptoms include catatonia (glassy eyes, fixed stare) dilated pupils, unsteadiness on feet and incoherency. DRUGS; DRUG ABUSE; CASE HISTORIES; BLOOD; MEASUREMENT METHODS; FORENSIC MEDICINE	Lewellen, L.J. Solomons, E.I. O'Brien, P.L. 1979

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Piperidine, 1-(1-phenylcyclohexyl)-
77-10-1
C17-H25-N
MW 243.39, MP 46 C, BP 135-137 C at 1 mm Hg

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1159 Brain		GC	2	0.1-2.0 mg/kg	1.0 mg/kg	Deaths in which phencyclidine was present in the blood. Cases investigated by the Maryland Medical Examiner in 1976 and 1977 in which phencyclidine was found: 36 whites, 1 black, 32 males, 5 females, age range, 16 to 42 yr. Causes of death included gunshot wounds, smoke and soot inhalation, drowning, drug intoxication. DRUGS; ALCOHOLS; DIAZEPAMS; CARBON INORGANIC COMPOUNDS; NARCOTICS; SEDATIVES; BLOOD; URINE; BILE; BRAIN; LIVER; KIDNEYS; DRUG ABUSE; AUTOPSIES; CASE HISTORIES; MARYLAND	Caplan, Y.H. Orloff, K.G. Thompson, B.C. Fisher, R.S. 1979
1160 Kidney		GC	2	2.0-50 mg/kg	26 mg/kg	Deaths in which phencyclidine was present in the blood. Highest value was in a suicide victim. Cases investigated by the Maryland Medical Examiner in 1976 and 1977 in which phencyclidine was found: 36 whites, 1 black, 32 males, 5 females, age range, 16 to 42 yr. Causes of death included gunshot wounds, smoke and soot inhalation, drowning, drug intoxication. DRUGS; ALCOHOLS; DIAZEPAMS; CARBON INORGANIC COMPOUNDS; NARCOTICS; SEDATIVES; BLOOD; URINE; BILE; BRAIN; LIVER; KIDNEYS; DRUG ABUSE; AUTOPSIES; CASE HISTORIES; MARYLAND	Caplan, Y.H. Orloff, K.G. Thompson, B.C. Fisher, R.S. 1979

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Piperidine, 1-(1-phenylcyclohexyl)-
77-10-1
C17-H25-N
MW 243.38, MP 46 C, BP 135-137 C at 1 mm Hg

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1161 Liver		GC/MS	3	1.7-12.7 ug/g	13.6 ug/g	Deaths from drug overdose 20 to 28 yr old males, in California Autopsies did not indicate specific involvement of PCP. DRUGS; DRUG ABUSE; BLOOD; LIVER; CASE HISTORIES; SUICIDE; CALIFORNIA	Noguchi, T.T. Nakamura, G.R. 1978
1162 Liver		GC	3	0.6-170 ug/kg	58.3 ug/kg	Deaths in which phencyclidine was present in blood. Highest value was in a suicide victim. Cases investigated by the Maryland Medical Examiner in 1976 and 1977 in which phencyclidine was found: 36 whites, 1 black, 32 males, 5 females, age range, 16 to 42 yr. Causes of death included gunshot wounds, smoke and soot inhalation, drowning, drug intoxication. DRUGS; ALCOHOLS; DIAZEPAMS; CARBON INORGANIC COMPOUNDS; NARCOTICS; SEDATIVES; BLOOD; URINE; BILE; BRAIN; LIVER; KIDNEYS; DRUG ABUSE; AUTOPSIES; CASE HISTORIES; MARYLAND	Caplan, Y.H. Grloff, E.G. Thompson, B.C. Fisher, R.S. 1979

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Piperidine, 1-(1-phenylcyclohexyl)-
77-10-1
C17-H25-N
MW 243.38, MP 46 C, BP 135-137 C at 1 mm Hg

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1963 Urine		GC	a) 27 b) 2	a) 0.1-6.7 mg/l b) 4.3-11 mg/l	a) 1.7 mg/l b) 7.6 mg/l	a) Deaths, primary cause not phencyclidine b) Deaths, acute phencyclidine intoxication Cases investigated by the Maryland Medical Examiner in 1976 and 1977 in which phencyclidine was found: 36 whites, 1 black, 32 males, 5 females, age range, 16 to 42 yr. Causes of death included gunshot wounds, smoke and soot inhalation, drowning, drug intoxication. DRUGS; ALCOHOLS; DIAZEPAMS; CARBON INORGANIC COMPOUNDS; NARCOTICS; SEDATIVES; BLOOD; URINE; BILE; BRAIN; LIVER; KIDNEYS; DRUG ABUSE; AUTOPSIES; CASE HISTORIES; MARYLAND	Caplan, Y.H. Orloff, K.G. Thompson, B.C. Fisher, R.S. 1979

Platinum
7440-06-4
Pt
AtW 195.09, MP 1773.5 C, BP 3827 C, VP 1 mm Hg at 2600 C, 10 mm Hg at 2940 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1164 Blood		AAS		Not given	0.012 ug/ml	From 10 determinations on spiked sample. PLATINUM; PALLADIUM; LEAD; METALS; BLOOD; URINE; FECES; HAIR; MEASUREMENT METHODS; TRACE ELEMENTS	Tillery, J.B. Johnson, D.E. 1975
1165 Placenta			58	0	0	No Pt found. Samples from 58 normal placentas collected immediately at delivery in hospitals in Charlotte, NC, Birmingham, AL and Augusta, GA. PLACENTA; MANGANESE; BARIUM; CADMIUM; SELENIUM; MERCURY; TIN; VANADIUM; BERYLLIUM; SILVER; COBALT; NICKEL; CHROMIUM; COPPER; ZINC; LEAD; IRON; PLATINUM; BORON; ARSENIC; LITHIUM; METALS; TRACE ELEMENTS; ENZYMES; NORTH CAROLINA; ALABAMA; GEORGIA	Karp, W.B. Robertson, A.F. 1977

Plumbane, tetramethyl-
75-74-1
C8-H12-Pb
MW 267.33, MP -27.5 C, BP 110 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1966 Blood	Inhalation Ingestion		1	1.79-3.91 umol/l	Not given	Male employee, United Kingdom, accidental exposure on January 20, 1972. On admittance to hospital patient was unconscious and suffering from injuries to head, face, eyes, chest and right leg. Temperature was elevated for 10 days. At no time were there symptoms related to organic lead poisoning. INDUSTRIAL ACCIDENTS; CASE HISTORIES; LEAD ORGANIC COMPOUNDS; URINE; FECES; CHEMOTHERAPY; COMPARATIVE EVALUATIONS; LEAD POISONING; INDUSTRIAL MEDICINE; METALS; UNITED KINGDOM; BLOOD	Gething, J. 1975
1967 Urine	Inhalation Ingestion		1	a) Not given b) Not given	a) 4.75 umol/l b) 19.73 umol/l	a) Average daily Pb output before chelation with Ca disodium versenate b) Average daily Pb output 5 days following chelation. Male employee, United Kingdom, accidental exposure on January 20, 1972. On admittance to hospital patient was unconscious and suffering from injuries to head, face, eyes, chest and right leg. Temperature was elevated for 10 days. At no time were there symptoms related to organic lead poisoning. INDUSTRIAL ACCIDENTS; CASE HISTORIES; LEAD ORGANIC COMPOUNDS; URINE; FECES; CHEMOTHERAPY; COMPARATIVE EVALUATIONS; LEAD POISONING; INDUSTRIAL MEDICINE; METALS; UNITED KINGDOM; BLOOD	Gething, J. 1975

Polybrominated biphenyls (No postings in CHEMLINE).

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1168 Adipose		GC	35	0.104-174.0 ppm	12.53 ppm	Residents of dairy farms in Mid-Michigan who had been exposed to PBBs. Controls from farms in the same geographical area. BROMINE ORGANIC COMPOUNDS; FARMS; FIRE RETARDANTS; FOOD CONTAMINATION; BLOOD; BIOACCUMULATION;CHILDREN; ADULTS; ADIPOSE TISSUE; ANIMAL POPULATIONS; POLYBROMINATED BIPHENYLS; BROMINATED HYDROCARBONS; RURAL AREAS	Humphrey, H.E.B. Haynes, H.S. 1975
1169 Adipose	Ingestion					Review Persons in Michigan exposed to contaminated products. No acute or short-term illness could be clearly attributed to exposure to PBB. Animal food contamination POLYBROMINATED BIPHENYLS; FOOD CONTAMINATION; ANIMAL POPULATIONS; MICHIGAN; FIRE RETARDANTS; BLOOD; ADIPOSE TISSUE; MILK; REVIEW	Dunckel, A.E. 1975
1170 Blood		GC GC-EC	a) 524 b) 55 c) 56	a) Not given b) Not given c) Not given	a) 23.7 ppb b) 123.0 p b c) Not detected in 54/56	Blood serum a) Michigan farmers b) Michigan Chemical Co. employees c) Wisconsin farmers (controls) 524 farm family members and 55 Michigan Chemical Corporation employees OCCUPATIONAL HAZARDS; FARMS; PESTICIDES; DDE; BLOOD SERUM; BROMINE ORGANIC COMPOUNDS; BIPHENYL COMPOUNDS; CHLORINE ORGANIC COMPOUNDS; INDUSTRIAL PLANTS; POLYBROMINATED BIPHENYLS; RURAL AREAS	Wolff, M.S. Aubrey, A. Camner, P. Hayami, M. 1979

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Polybrominated biphenyls (No postings in CHEMLINE).

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1971 Blood			a) 110 b) 104	a) 0-2.26 ppm b) 0-0.09 ppm	a) Not given b) Not given	a) 82 adults and 28 children from quarantined farms b) 74 adults and 30 children from non-quarantined farms There were 6 adults and 7 children with levels between 0.5 and 2.26 ppm. Samples from 158 adults and 58 children living on farms in Michigan during 1974 Anecdotal reports of rashes, alopecia, and gastrointestinal disturbances in persons on quarantined farms. Accidental contamination of cattle feed BROMINATED HYDROCARBONS; FOOD CONTAMINATION; DAIRY CATTLE; NEUROLOGIC MANIFESTATIONS; MUSCULOSKELETAL SYSTEM; GASTROINTESTINAL SYSTEM; POLYBROMINATED BIPHENYLS; MICHIGAN; FARMS; BLOOD SERUM	Kay, K. 1977
1972 Blood		GC	a) 82 b) 74 c) 28 d) 30	a) 0-2.26 ppm b) 0-0.06 ppm c) 0.002-2.26 ppm d) 0.02-0.09 ppm	a) 0.014 ppm b) 0.003 ppm c) 0.035 ppm d) 0.006 ppm Values are medians.	a) Exposed-adults b) Controls - adults c) Exposed-children d) Controls - children Residents of dairy farms in Mid-Michigan who had been exposed to PBBs. Controls from farms in the same geographical area. BROMINATED ORGANIC COMPOUNDS; FARMS; FIRE RETARDANTS; FOOD CONTAMINATION; BLOOD; BIOACCUMULATION; CHILDREN; ADULTS; ADIPOSE TISSUE; ANIMAL POPULATIONS; POLYBROMINATED BIPHENYLS; BROMINATED HYDROCARBONS; RURAL AREAS	Humphrey, H.E.B. Hayner, N.S. 1975

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Polybrominated biphenyls (No postings in CHEMLINE).

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1173 Blood	Ingestion					Review Persons in Michigan exposed to contaminated products. No acute or short-term illness could be clearly attributed to exposure to PBB. Animal food contamination POLYBROMINATED BIPHENYLS; FOOD CONTAMINATION; ANIMAL POPULATIONS; MICHIGAN; FIRE RETARDANTS; BLOOD; ADIPOSE TISSUE; MILK; REVIEW	Dunckel, A.E. 1975
1174 Blood, serum		RIA	a) 8 b) 6 c) 2 d) 1	a) < 10 ppb b) > or = 10 ppb	a) Not given b) Not given	a) Smokers, 20 of which had abnormal carcinoembryonic antigen (CEA) titers (> 2.5 ng/ml) b) Smokers, 9 of which had abnormal CEA titers Other data available. Samples from Michigan farmers living in area of accidental exposure to PBB. Controls were Wisconsin farmers. Elevated CEA titers were significantly higher in individuals with medical history of chronic bronchitis, gastrointestinal disease, ulcers, inflammatory bowel disease, cirrhosis, gall bladder or thyroid disease. BROMINATED HYDROCARBONS; POPULATION EXPOSURE; SMOKING; AGE; CASE HISTORIES; MICHIGAN; WISCONSIN; POLYBROMINATED BIPHENYLS; RURAL AREAS	Anderson, M.A. Rosenman, K.D. Snyder, J. 1978

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Polybrominated biphenyls (No postings in CHEMLINE).

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1175 Blood, serum	Ingestion		a) 283 b) 40 c) 153 d) 28	a) Not given b) Not given c) Not given d) Not given	a) 3.9 ppb b) 4.2 ppb c) 1.4 ppb d) 2.2 ppb Values are medians.	a) Farmers, quarantined farms b) Consumers of products from quarantined farms c) Farmers, non-quarantined farms d) Consumers of products from quarantined farms Samples from farmers and consumers of dairy products in Michigan Neurologic syndrome most important, marked by fatigue, headache, dizziness, irritability. Gastrointestinal syndrome included loss of appetite, weight loss, abdominal pain, diarrhea. Musculoskeletal syndrome included arthritic-like changes. Dermatologic changes were reported. Abnormalities in liver function tests BROMINATED HYDROCARBONS; FOOD CONTAMINATION; DAIRY CATTLE; NEUROLOGIC MANIFESTATIONS; MUSCULOSKELETAL SYSTEM; GASTROINTESTINAL SYSTEM; POLYBROMINATED BIPHENYLS; MICHIGAN; FARMS; BLOOD SERUM	Lilis, R. Anderson, H.A. Valciukas, J.A. Freedman, S. Selikoff, I.J. 1978
1176 Blood, serum	Ingestion		a) 195 b) 112	a) 0.8 - 732 ppb b) 0.4 - 26.0 ppb Range of means	a) Not given b) Not given	a) 39 family units on quarantined farms b) 23 family units on nonquarantined farms Method of analysis not given. Samples from 62 families on dairy farms or consumers of food from these farms in Michigan. Accidental contamination of cattle feed. DDE; BIPHENYL COMPOUNDS; BROMINATED HYDROCARBONS; POPULATION EXPOSURE; FOOD CONTAMINATION; MICHIGAN; PESTICIDES; POLYBROMINATED BIPHENYLS	Wolff, M.S. Haynes, M. Anderson, H.A. Selikoff, I.J. 1978

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Polybrominated biphenyls (No postings in CHEMLINE).

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1977 Blood, serum	Inhalation		55 workers, 524 farmers, 169 controls	a) <1 ppb b) 1.1-9.9 ppb c) > or = 1000 ppb	a) Not given b) Not given c) Not given	a) No chemical workers, 23% of farmers and 13% of controls b) 51% of chemical workers, 59% of farmers, 68% of controls c) 5% of chemical workers, 0.4% of farmers, 0.9% of controls Method of analysis not given. Samples from employees of a chemical corporation in Michigan and from dairy farmers exposed by accidental contamination of cattle feed. Controls were randomly-invited Michigan farmers and/or consumers. Chest and skin symptoms in chemical workers. Chemical workers and farmers had significantly higher prevalence of elevated liver function tests than did controls. Workers with more than 5 yr experience had significantly higher CEA titers than did farmers. BIPHENYL COMPOUNDS; BROMINATED HYDROCARBONS; OCCUPATIONAL HAZARDS; POPULATION EXPOSURE; FOOD CONTAMINATION; RURAL AREAS	Anderson, H.A. Wolff, M.S. Fischbein, A. Selikoff, I.J. 1978
1978 Milk		GC	5	0.21-92.66 ppm	25.63 ppm	Residents of dairy farms in Mid-Michigan who had been exposed to PBBs. Controls from farms in the same geographical area. BROMINE ORGANIC COMPOUNDS; FARMS; FIRE RETARDANTS; FOOD CONTAMINATION; BLOOD; BIOACCUMULATION;CHILDREN; ADULTS; ADIPOSE TISSUE; ANIMAL POPULATIONS; POLYBROMINATED BIPHENYLS; BROMINATED HYDROCARBONS; RURAL AREAS	Humphrey, H.E.B. Hayner, N.S. 1975

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Polybrominated biphenyls (No postings in CHEMLINE).

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1179 Milk	Ingestion					Review Persons in Michigan exposed to contaminated products. No acute or short-term illness could be clearly attributed to exposure to PBB. Animal food contamination POLYBROMINATED BIPHENYLS; FOOD CONTAMINATION; ANIMAL POPULATIONS; MICHIGAN; FIRE RETARDANTS; BLOOD; ADIPOSE TISSUE; MILK; REVIEW	Dunckel, A.E. 1975

Potassium
7440-09-7
K
Atw 39.098, MP 63.2 C, BP 765.5 C, VP 100 mm Hg at 590 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1180 Brain		AAS	4	Means from 8.7-15.9 ug/g dry wt	Not given	Distribution of Pb and K in brain were similar. Pb accumulated primarily in cell-rich areas. Areas: half brain, hippocampus, amygdata, cerebellum, medulla oblongata, corpus callosum, optic tract. Ages at death: 36, 42, 43, 43 causes of death were acute infection 2 cases of drug poisoning, suffocation. No apparent occupational exposure to lead. BRAIN; LEAD; POTASSIUM; CEREBELLUM; METALS	Grandjean, P. 1978
1181 Hair		AAS	10	20-200 ug/g	Not given	Average of 100% K extracted with 1% nitric acid Specimens from donors aged 12 to 60 yr and from various geographic exposure areas. SODIUM; MAGNESIUM; POTASSIUM; CALCIUM; MANGANESE; ZINC; NICKEL; COPPER; IRON; CADMIUM; LEAD; HAIR; NUTRITIONAL DEFICIENCIES; BIOACCUMULATION; MINERAL METABOLISM; METALS; TRACE ELEMENTS	Hinners, T.A. Terrill, W.J. Kent, J.L. Colucci, A.V. 1974

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Potassium
7440-09-7
K
At# 39.098, MP 63.2 C, BP 765.5 C, VP 100 mm Hg at 590 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1182 Muscle		NA	a) 5 b) 5 c) 8	a) Not given b) Not given c) Not given	a) 99.6 g b) 85.4 g c) 77.6 g	a) 30-39 yr black women b) 60-69 yr black women c) 70-79 yr black women Measured as K40 by whole body counting. Twenty-six black women, aged 30-79 yr, all active and in good health. Large muscle mass found in blacks increased skeletal mass and, therefore, an increased resistance to fracture. CALCIUM; POTASSIUM; BONES; DISEASES; METALS; AGE; RACIAL STUDIES	Cohn, S.H. Abesamis, C. Yasumura, S. Aloia, J.F. Zanzi, I. Ellis, K.J. 1977

Pregna-1,4-diene-3,11,20-trione, 17,21-dihydroxy-
53-03-2
C21-H26-O5
MW 358.44, MP 235 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1183 Blood, plasma	Ingestion	GC/MS	1	a) Not given b) Not given c) Not given d) Not given	a) 12 ng/ml b) 22 ng/ml c) 20 ng/ml d) 12 ng/ml	a) Time=0.5 hr b) Time=1.5 hr c) Time=4 hr d) Time=8 hr Concentrations after 15 mg dose. Concentrations of metabolite prednisolone at 0.3, 1.2, 4 and 8 hr were: 97, 320, 130 and 55 ng/ml, respectively. DRUGS; STEROIDS; CORTICOSTEROIDS; GLUCOCORTICOIDS; BLOOD PLASMA; MEASUREMENT METHODS	Matin, S.B. Amos, B. 1979

Proline, 4-hydroxy-, L- (8 CI)
L-Proline, 4-hydroxy-, trans- (9 CI)
51-35-4
C5-H9-N-O3
MW 131.13, MP alpha form 274 C, beta form 238-241 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1184 Urine			8	a) 20.82-37.74 mg/24 h b) 23.93-48.47 mg/24 h	a) 27.92 mg/24 h b) 33.38 mg/24 h	a) Control diet b) High-phosphorus diet Samples from graduate students 24-36 years old. PHOSPHORUS; CALCIUM; MINERALS; DIETS; FOODS; FOOD ADDITIVES; BLOOD SERUM; URINE; NUTRITIONAL DISORDERS; PARATHYROID DYSFUNCTION; ADENOSINE MONOPHOSPHATE; ILLINOIS	Bell, R.R. Draper, H.H. Tzeng, D.Y.M. Shin, H.K. Schmidt, G.R. 1977

Propanamide, 2-amino-N-(2,6-dimethylphenyl)-
41708-72-9
C11-H16-N2-O
MW 192.26

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1985 Blood	Ingestion	HPLC	1	Not given	1.8 ug/ml	Peak concentration occurring at about 1 hr after subject received a 400 mg oral dose 8 hr DRUGS; HEART DISEASES; BLOOD; MEASUREMENT METHODS	Wolshin, E.M. Cavanaugh, M.H. Manion, C.V. Meyer, M.B. Milano, E. Reardon, C.R. Wolshin, S.M. 1978

Pyrimido(1,2-a)indol-10-ol, 10-(3-chlorophenyl)-2,3,4,10-tetrahydro-
37751-39-6
C17-H15-Cl-N2-O

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1986 Blood, plasma	Ingestion	GC	15	a) Not given b) Not given c) Not given	a) 2.45 ug/ml b) 2.49 ug/ml c) 2.55 ug/ml	a) 2 wk b) 4 wk c) 6 wk Levels during drug treatment [50 mg dose daily for 3 days followed by 50 mg twice daily for 5.5 wk] Patients [11 females and 4 males, mean age 59 yr, mean weight 63 kg] being treated for primary depressive illness. Patients experienced some weight loss, but fewer subjective side effects than those being treated with amitriptyline. DRUGS; ANTIDEPRESSIVE AGENTS; BLOOD PLASMA; UNITED KINGDOM	Ghose, K. Rao, V.A.R. Bailey, J. Copper, A. 1978

Rubidium
7440-17-7
Rb
Atw 85.4678, MP 39 C, BP 688 C, VP 10 mm Hg at 390 C

TISSUE	EXPOSURE MODE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1987 Skin		NA	a) 5 b) 4 c) 10 (Samples)	a) 4.6-13.0 ug/g dry wt b) 4.8-15.9 ug/g dry wt c) 7.2-19.4 ug/g dry wt	a) 8.32 ug/g dry wt b) 9.98 ug/g dry wt c) 8.42 ug/g dry wt	a) Normal b) Psoriatic uninvolved c) Psoriatic involved Loss per day via desquamation in untreated widespread scaling psoriasis may rise to 0.2 mg if whole body surface is involved. Specimens from trunk region of 14 males in Sweden. 9 were suffering from psoriasis (ages 0-59 yr, mean 36), and 5 had no evidence of skin disorder (ages 19-57 yr, mean 33) BROMINE; CADMIUM; CHROMIUM; MOLYBDENUM; RUBIDIUM; SELENIUM; ARSENIC; GOLD; CESIUM; MERCURY; LANTHANUM; ANTIMONY; SCANDIUM; SAMARIUM; TUNGSTEN; EPIDERMIS; SKIN DISEASES; METALS; TRACE ELEMENTS	Molin, I. Wester, P.O. 1974

Salicylamide (8 CI)
Benzamide, 2-hydroxy- (9 CI)
65-45-2
C7-H7-N-O2

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1188 Liver		GC	1	Not applicable	45 ug/g	Samples of blood, liver and urine from fatal intoxications were collected at autopsy. AUTOPSIES; BLOOD; URINE; LIVER; DRUGS	Norheim, G. 1976

Salicylic acid, ion(1-) (8 CI)
Benzoic acid, 2-hydroxy-, ion(1-) (9 CI) (VAN)
63-36-5
C7-H5-O3

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1189 Urine		GC	1	Not applicable	185.0 mg/l	No apparent influence on fatal outcome. Death due to combined effects of 2 other drugs also present. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, H. Holder, A.T. Powell, R. 1979

Samarium
7440-19-9
Sm
AtW 150.4, MP 1072 C, BP 1778 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1190 Skin		NA	a) 4 b) 5 c) 5 (Samples)	a) 0.02-0.1 ug/g dry wt b) 0.03-0.3 ug/g dry wt c) 0.02-0.08 ug/g dry wt	a) 0.070 ug/g dry wt b) 0.054 ug/g dry wt c) 0.042 ug/g dry wt	a) Normal b) Psoriatic uninvolved c) Psoriatic involved Specimens from trunk region of 14 males in Sweden. 9 were suffering from psoriasis (ages 0-59 yr, mean 46), and 5 had no evidence of skin disorder (ages 19-57 yr, mean 33). BROMINE; CADMIUM; CHROMIUM; MOLYBDENUM; RUBIDIUM; SELENIUM; ARSENIC; GOLD; CESIUM; MERCURY; LANTHANUM; ANTIMONY; SCANDIUM; SAMARIUM; TUNGSTEN; EPIDERMIS; SKIN DISEASES; METALS; TRACE ELEMENTS	Molin, L. Wester, P.O. 1974

Sanguinarine (8 CI)
(1,3)Benzodioxolo(5,6-c)-1,3-dioxolo(4,5-i)phenanthridinium, 13-methyl- (9 CI)
2447-54-3
C20-H14-N-O4
MW 332.34, MP 210-211 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1191 Blood, serum	Ingestion	TLC Fluorometry	22	4.7-28.3 ug/100ml	Not given	2 of 22 samples positive Paired serum and urine samples from 22 patients suffering from epidemic dropsy. DISEASES; OILSEED CROPS; ALKALOIDS; BLOOD SERUM; URINE; INDIA	Shenolikar, I.S. Pukmini, C. Krishnamachari, K.A.V.R. Satyanarayana, K. 1974
1192 Urine		TLC Fluorometry	22	Approx 0.5 ug/100 - >2.0 ug/100ml	Not given	21 of 22 samples positive Paired Serum and urine samples from 22 patients suffering from epidemic dropsy. DISEASES; OILSEED CROPS; ALKALOIDS; BLOOD SERUM; URINE; INDIA	Shenolikar, I.S. Pukmini, C. Krishnamachari, K.A.V.R. Satyanarayana, K. 1974

Scandium
7440-20-2
Sc
AtW 44.9559, MP 1538 C, BP 2832 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1193 Skin		NA	a) 4 b) 3 c) 9 (Samples)	a) 0.0004-0.003 ug/g dry wt b) 0.0004-0.003 ug/g dry wt c) 0.0004-0.002 ug/g dry wt	a) 0.0011 ug/g dry wt b) 0.0015 ug/g dry wt c) 0.00098 ug/g dry wt	a) Normal b) Psoriatic uninvolved c) Psoriatic involved Specimens from trunk region of 14 males in Sweden. 9 were suffering from psoriasis (ages 0-59 yr, mean 46), and 5 had no evidence of skin disorder (ages 19-57 yr, mean 33). BROMINE; CADMIUM; CHROMIUM; MOLYBDENUM; RUBIDIUM; SELENIUM; ARSENIC; GOLD; CESIUM; MERCURY; LANTHANUM; ANTIMONY; SCANDIUM; SAMARIUM; TUNGSTEN; EPIDERMIS; SKIN DISEASES; METALS; TRACE ELEMENTS	Molin, L. Wester, P.O. 1974

Selenium
7782-49-2
Se
Atw 78.96, MP 170-217 C, BP 685 C, VP 1 mm Hg at 356 C, 10 mm Hg at 429 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1194 Blood						Review In states with high Se levels, there is a significantly lower mortality in both males and females from several types of cancer, particularly gastrointestinal and urogenital types. SELENIUM; METALS; AGE; NEOPLASMS; BLOOD; REVIEW	Shamberger, R.J. Tytko, S.A. Willis, C.E. 1976
1195 Blood, serum		NA	13, 220 Controls	a) 2.0-8.2 ng/ml b) 18.5-112 ng/ml c) 1.8-2.7 ng/ml d) 81-141 ng/ml	a) 5.1 ng/ml b) 51.2 ng/ml (median) c) 2.3 ng/ml d) 81 ng/ml (median)	a) Patients with maple-syrup-urine-disease (infants) b) Control (infants) c) Patients with PKU (infants) d) Control (1-5 yr old) 2 dietetically treated patients with maple-syrup-urine disease 11 dietetically treated patients with phenylketonuria (PKU) BLOOD SERUM; SELENIUM; DIETS; METALS; DISEASES; INFANTS	Lombeck, I. Kasperek, K. Feinendegen, L.E. Bremer, H.J. 1975

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Selenium
7782-49-2
Se
AtW 78.96, MP 170-217 C, BP 685 C, VP 1 mm Hg at 356 C, 10 mm Hg at 429 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1196 Blood, serum		NA	289	a) Not given b) Not given c) Not given d) Not given	a) 1.49 ug/g b) 1.48 ug/g c) 1.76 ug/g d) 1.27 ug/g	a) Non-malignant disorders b) Control c) Malignancies of reticuloendothilial system d) Carcinoma Venous blood from 174 patients admitted to the Veterans Administration Hospital. 28 patients with non-malignant medical or surgical disorder, 110 patients with carcinoma, 36 patients with neoplasm of reticuloendothelial system. Controls were 18 healthy, non-hospitalized individuals in Louisville area. 100 samples of synovia from diseased joints, 28 controls were postmortems. 23 postmortem specimens of pancreas and 11 of liver obtained. SELENIUM; BLOOD; LIVER; PANCREAS; SYNOVIAL MEMBRANES; DISEASES; RETICULOENDOTHELIAL SYSTEM; NEOPLASMS; CARCINOMAS; RHEUMATOID ARTHRITIS; AUTOPSIES; METALS	McConnell, K.P. Broghamer, W.L., Jr. Blotcky, A.J. Hurt, O.J. 1975
1197 Blood, whole	Inhalation Ingestion	NA	a) 7 b) 13 c) 12	a) 83-193 ng/ml b) 62-208 ng/ml c) 34-166 ng/ml	a) 133 ng/ml b) 113 ng/ml c) 77 ng/ml	a) Heavy occupational exposure b) Minimum exposure c) Controls 7 men, 29-54 yr working near Hg furnaces. 13 male miners, 40-54 yr working at extraction of Hg ore. 12 controls, relatives of above. Mines Furnaces MERCURY; SELENIUM; POPULATION EXPOSURE; ITALY; OCCUPATIONAL HAZARDS; BLOOD; URINE; HAIR; BIOACCUMULATION; MINERAL DEPOSITS; METALS; METABOLISM; AUTOPSIES	Rossi, L.C. Clemente, G.F. Santaroni, G. 1976

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Selenium
7782-49-2
Se
Atw 78.96, MP 170-217 C, BP 685 C, VP 1 mm Hg at 356 C, 10 mm Hg at 429 C

(CONTINUED)

TISSUE	EXPOSURE SCORE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1198 Bone	Inhalation Ingestion		a) 7 b) 7 c) 7	a) Not applicable b) Not applicable c) Not applicable	a) 85 ng/g b) <80 ng/g c) <40 ng/g	a) Exposed 17 yr b) Exposed 30 yr c) Exposed 37 yr Autopsy samples from 7 miners of the Amiata Mountain area. MERCURY; SELENIUM; POPULATION EXPOSURE; ITALY; OCCUPATIONAL HAZARDS; BLOOD; URINE; HAIR; BIOACCUMULATION; MINERAL DEPOSITS; METALS; METABOLISM; AUTOPSIES	Rossi, L.C. Clemente, G.F. Santaroni, G. 1976
1199 Brain	Inhalation Ingestion		a) 7 b) 7 c) 7	a) Not applicable b) Not applicable c) Not applicable	a) 52 ng/g b) 77 ng/g c) 43 ng/g	a) Miner exposed 17 yr b) Miner exposed 30 yr c) Miner exposed 37 yr Autopsy samples from 7 miners of the Amiata Mountain area. MERCURY; SELENIUM; POPULATION EXPOSURE; ITALY; OCCUPATIONAL HAZARDS; BLOOD; URINE; HAIR; BIOACCUMULATION; MINERAL DEPOSITS; METALS; METABOLISM; AUTOPSIES	Rossi, L.C. Clemente, G.F. Santaroni, G. 1976
1200 Hair	Inhalation Ingestion	NA	a) 7 b) 13 c) 12	a) 0.213-0.668 ug/g b) 0.410-0.850 ug/g c) 0.218-0.505 ug/g	a) 0.449 ug/g b) 0.630 ug/g c) 0.332 ug/g	a) Heavy occupational exposure b) Random exposure c) Controls 7 men, 29-58 yr working near Hg furnaces. 13 male miners, 46-54 yr working at extraction of Hg ore. 12 controls relatives of above. Mines Furnaces MERCURY; SELENIUM; POPULATION EXPOSURE; ITALY; OCCUPATIONAL HAZARDS; BLOOD; URINE; HAIR; BIOACCUMULATION; MINERAL DEPOSITS; METALS; METABOLISM; AUTOPSIES	Rossi, L.C. Clemente, G.F. Santaroni, G. 1976

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Selenium
7782-49-2
Se
AtW 78.96, MP 170-217 C, BP 685 C, VP 1 mm Hg at 356 C, 10 mm Hg at 429 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1201 Kidney		NA	a) 4 b) 2 c) 2	a) 1.6-5.1 ppm fresh wt b) 0.47-0.70 ppm fresh wt c) 0.54-0.82 ppm fresh wt	a) 2.83 ppm fresh wt b) 0.59 ppm fresh wt c) 0.68 ppm fresh wt	a) Mercury mine workers b) Idrija population c) Controls Post-mortem samples from 3 groups of people: workers in the mercury mine at Idrija, Slovenia, inhabitants of the town of Idrija, and a control group with no known exposure. MERCURY; SELENIUM; OCCUPATIONAL HAZARDS; URBAN AREAS; MINING; AUTOPSIES; THYROID GLANDS; PITUITARY GLAND; KIDNEYS; LIVER; LUNGS; BRAIN; YUGOSLAVIA; METALS; COMPARATIVE EVALUATIONS	Kosta, L. Byrne, A.R. Zelenko, V. 1975
1202 Kidney	Inhalation Ingestion		a) 1 b) 1 c) 1	a) Not applicable b) Not applicable c) Not applicable	a) 267 ng/g b) 524 ng/g c) 680 ng/g	a) Exposed 17 yr b) Exposed 30 yr c) Exposed 37 yr Autopsy samples from 3 miners of the Amiata Mountain area MERCURY; SELENIUM; POPULATION EXPOSURE; ITALY; OCCUPATIONAL HAZARDS; BLOOD; URINE; HAIR; BIOACCUMULATION; MINERAL DEPOSITS; METALS; METABOLISM; AUTOPSIES	Rossi, L.C. Clemente, G.F. Santaroni, G. 1976

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Selenium
7782-49-2
Se
AtW 78.96, MP 170-217 C, BP 685 C, VP 1 mm Hg at 356 C, 10 mm Hg at 429 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1203 Liver		NA	289	a) Not given b) Not given	a) 1.73 ug/g dry wt b) 1.40 ug/g dry wt	a) Control b) Abnormal Venous blood from 174 patients admitted to the Veterans Administration Hospital. 28 patients with non-malignant medical or surgical disorder, 110 patients with carcinoma, 36 patients with neoplasm of reticuloendothelial system. Controls were 18 healthy, non-hospitalized individuals in Louisville area. 100 samples of synovia from diseased joints, 28 controls were postmortems. 23 postmortem specimens of pancreas and 11 of liver obtained. SELENIUM; BLOOD SERUM; LIVER; PANCREAS; SYNOVIAL MEMBRANES; DISEASES; RETICULOENDOTHELIAL SYSTEM; NEOPLASMS; CARCINOMAS; RHEUMATOID ARTHRITIS; AUTOPSIES; METALS; KENTUCKY	McConnell, K.P. Brogdaser, W.I., Jr. Blotcky, A.J. Hurt, O.J. 1975
1204 Liver		NA	a) 4 b) 2 c) 2	a) 0.36-0.40 ppm fresh wt b) 0.12-0.21 ppm fresh wt c) 0.17-0.19 ppm fresh wt	a) 0.38 ppm fresh wt b) 0.17 ppm fresh wt c) 0.18 ppm fresh wt	a) Mercury mine workers b) Idrija population c) Controls Post-mortem samples from 3 groups of people: workers in the mercury mine at Idrija, Slovenia, inhabitants of the town of Idrija, and a control group with no known exposure. MERCURY; SELENIUM; OCCUPATIONAL HAZARDS; URBAN AREAS; MINING; AUTOPSIES; THYROID GLANDS; PITUITARY GLAND; KIDNEYS; LIVER; LUNGS; BRAIN; YUGOSLAVIA; METALS; COMPARATIVE EVALUATIONS	Kosta, L. Byrne, A.R. Zelenko, V. 1975

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Selenium
7782-49-2
Se
AtW 78,96, MP 170-217 C, BP 685 C, VP 1 mm Hg at 356 C, 10 mm Hg at 429 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1205 Liver	Inhalation Ingestion		a) 1 b) 1 c) 1	a) Not applicable b) Not applicable c) Not applicable	a) 141 ng/g b) 125 ng/g c) 126 ng/g	a) Exposed 17 yr b) Exposed 30 yr c) Exposed 17 yr Autopsy samples from 3 miners of the Amiata Mountain area. MERCURY; SELENIUM; POPULATION EXPOSURE; ITALY; OCCUPATIONAL HAZARDS; BLOOD; URINE; HAIR; BIOACCUMULATION; MINERAL DEPOSITS; METALS; METABOLISM; AUTOPSIES	Rossi, L.C. Clemente, G.F. Santaroni, G. 1976
1206 Lung		MS	98	0.46-26 ug/g dry wt	0.10 ug/g dry wt	Mean is geometric. Samples from deceased Cincinnati, OH residents, age range 23-96 years with a median of 66 years, evenly divided between men and women, blacks and whites. Occupations included foundry workers, machinists, farmers, domestics, homemakers, clerical workers. Deaths were from normal causes. METALS; TRACE ELEMENTS; ALUMINUM; CADMIUM; CHROMIUM; COBALT; COPPER; GERMANIUM; IODINE; LEAD; MAGNESIUM; MANGANESE; MOLYBDENUM; SELENIUM; TITANIUM; VANADIUM; ZINC; AUTOPSIES; LUNGS; LYMPH NODES; URBAN AREAS; OHIO	Sweet, D.V. Crouse, W.E. Crable, J.V. 1978

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Selenium
7782-49-2
Se
AtW 78.96, MP 170-217 C, BP 685 C, VP 1 mm Hg at 356 C, 10 mm Hg at 429 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1207 Lymph node		MS	98	0.38-29 ug/g dry wt	6.15 ug/g dry wt	Mean is geometric. Samples from deceased Cincinnati, OH residents, age range 23-96 years with a median of 66 years, evenly divided between men and women, blacks and whites. Occupations included foundry workers, machinists, farmers, domestics, homemakers, clerical workers. Deaths were from normal causes. METALS; TRACE ELEMENTS; ALUMINUM; CADMIUM; CHROMIUM; COBALT; COPPER; GERMANIUM; IODINE; LEAD; MAGNESIUM; MANGANESE; MOLYBDENUM; SELENIUM; TITANIUM; VANADIUM; ZINC; AUTOPSIES; LUNGS; LYMPH NODES; URBAN AREAS; OHIO	Sweet, D.V. Crouse, W.E. Crable, J.V. 1978
1208 Milk		Fluorometry	241	0.007-0.060 ppm	0.018 ppm	The range of average concentrations from various cities was from 0.013 ppm in Akron, Ohio, to 0.028 ppm in Sioux Falls, SD. Most were within 0.016 to 0.024 ppm Se. Only 3 were in the range of 0.052 to 0.060 ppm Se. The 241 subjects who donated milk samples were normal, noninstitutionalized, nonpregnant women, who lived within 400 km of their respective cities for at least one year. Average age of the milk donors was 27.4 yr, and average numbers of days postpartum when samples collected was 183 days. MILK; BREAST; URBAN AREAS; SELENIUM; METALS; SOUTH DAKOTA; UTAH; MONTANA; OREGON; PENNSYLVANIA; ARIZONA; MISSOURI; IOWA; CALIFORNIA; GEORGIA; WYOMING; TEXAS; OKLAHOMA; COLORADO; NEW YORK; CONNECTICUT; OHIO	Shearer, T.R. Hadjimarkos, D.M. 1975

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Selenium
7782-49-2
Se
AtW 78.96, MP 170-217 C, BP 685 C, VP 1 mm Hg at 356 C, 10 mm Hg at 429 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1209 Pancreas		NA	289	a) Not given b) Not given	a) 0.98 ug/g dry wt b) 0.63 ug/g dry wt	a) Abnormal b) Control Venous blood from 174 patients admitted to the Veterans Administration Hospital. 28 patients with non-malignant medical or surgical disorder, 110 patients with carcinomas, 36 patients with neoplasm of reticuloendothelial system. Controls were 18 healthy non-hospitalized individuals in Louisville area. 100 samples of synovia from diseased joints, 28 controls were postmortems. 23 postmortem specimens of pancreas and 11 of liver obtained. SELENIUM; BLOOD SERUM; LIVER; PANCREAS; SYNOVIAL MEMBRANES; DISEASES; RETICULOENDOTHELIAL SYSTEM; NEOPLASMS; CARCINOMAS; RHEUMATOID ARTHRITIS; AUTOPSIES; METALS; KENTUCKY	McConnell, K.P. Broghamer, W.L., Jr. Blotcky, A.J. Hurt, O.J. 1975
1210 Pituitary		NA	a) 3 b) 2 c) 2	a) 6.1-13.3 ppm fresh wt b) 0.34-0.39 ppm fresh wt c) 0.34-0.45 ppm fresh wt	a) 8.6 ppm fresh wt b) 0.37 ppm fresh wt c) 0.40 ppm fresh wt	a) Mercury mine workers b) Idrija population c) Controls Post-mortem samples from 3 groups of people: workers in the mercury mine at Idrija, Slovenia, inhabitants of the town of Idrija, and a control group with no known exposure. MERCURY; SELENIUM; OCCUPATIONAL HAZARDS; URBAN AREAS; MINING; AUTOPSIES; THYROID GLANDS; PITUITARY GLAND; KIDNEYS; LIVER; LUNGS; BRAIN; YUGOSLAVIA; METALS; COMPARATIVE EVALUATIONS	Kosta, L. Byrne, A.R. Zelenko, V. 1975

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Selenium
7782-49-2
Se
AtW 78.96, MP 170-217 C, BP 685 C, VP 1 mm Hg at 356 C, 10 mm Hg at 429 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1211 Placenta			50	a) Not given b) Not given c) Not given d) Not given	a) 0.114 ug/g wet wt b) 0.089 ug/g wet wt c) 0.118 ug/g wet wt d) 0.139 ug/g wet wt	a) All cities b) Augusta, GA c) Birmingham, AL d) Charlotte, NC Metal levels correlated with enzyme activities. Samples from 50 normal placentas collected immediately at delivery in hospitals in Charlotte, NC, Birmingham, AL and Augusta, GA. PLACENTA; MANGANESE; BARIUM; CADMIUM; SELENIUM; MERCURY; TIN; VANADIUM; BERYLLIUM; SILVER; COBALT; NICKEL; CHROMIUM; COPPER; ZINC; LEAD; IRON; PLATINUM; BORON; ARSENIC; LITHIUM; METALS; TRACE ELEMENTS; ENZYMES; GEORGIA; ALABAMA; NORTH CAROLINA	Karp, W.B. Robertson, A.F. 1977
1212 Skin		NA	a) 5 b) 8 c) 10 (Samples)	a) 0.3-1.7 ug/g dry wt b) 0.3-1.4 ug/g dry wt c) 0.9-1.6 ug/g dry wt	a) 1.18 ug/g dry wt b) 0.90 ug/g dry wt c) 1.18 ug/g dry wt	a) Normal b) Psoriatic uninvolved c) Psoriatic involved Loss per day via desquamation in untreated widespread scaling psoriasis may rise to 0.2 mg if whole body surface is involved. Specimens from trunk region of 14 males in Sweden. 9 were suffering from psoriasis (ages 0-59 yr, mean 46), and 5 had no evidence of skin disorder (ages 19-57 yr, mean 31) BROMINE; CADMIUM; CHROMIUM; MOLYBDENUM; RUBIDIUM; SELENIUM; ARSENIC; GOLD; CESIUM; MERCURY; LANTHANUM; ANTIMONY; SCANDIUM; SAMARIUM; TUNGSTEN; EPIDERMIS; SKIN DISEASES; METALS; TRACE ELEMENTS	Molin, L. Wester, P.O. 1974

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Selenium
7782-49-2
Se
AcW 78.96, MP 170-217 C, BP 685 C, VP 1 mm Hg at 356 C, 10 mm Hg at 429 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1213 Synovial membrane		NA	289	a) Not given b) Not given c) Not given	a) 0.63 ug/g dry wt b) 0.88 ug/g dry wt c) 1.27 ug/g dry wt	a) Control b) Diseased joint c) Rheumatoid arthritis Venous blood from 174 patients admitted to the Veterans Administration Hospital. 28 patients with non-malignant medical or surgical disorder, 110 patients with carcinoma, 36 patients with neoplasm of reticuloendothelial system. Controls were 18 healthy, non-hospitalized individuals in Louisville area. 100 samples of synovia from diseased joints, 28 controls were postmortems. 23 postmortem specimens of pancreas and 11 of liver obtained. SELENIUM; BLOOD SERUM; LIVER; PANCREAS; SYNOVIAL MEMBRANES; DISEASES; RETICULOENDOTHELIAL SYSTEM; NEOPLASMS; CARCINOMAS; RHEUMATOID ARTHRITIS; AUTOPSIES; METALS; KENTUCKY	McConnell, K.P. Proghamer, W.L., Jr. Blotcky, A.J. Hurt, O.J. 1975
1214 Teeth		MS	a) 36 b) 25	a) Not given b) Not given	a) 0.350 ppm b) 0.352 ppm	a) Enamel - areas of high Se forage b) Enamel - areas of low Se forage Samples from 12-14 yr old children who were life-long residents of their respective towns in Oregon, Montana, and California. DMFT (Decayed, missing or filled teeth) lower in children living in areas with low selenium vs. high selenium content in forage. STRONTIUM; METALS; FLUORINE; TEETH; DENTAL CARIES; MINERALS; SELENIUM; CALIFORNIA; MONTANA; OREGON; CHILDREN	Little, M.F. Barrett, K. 1976

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Selenium
7782-49-2
Se
AtW 78.96, MP 170-217 C, BP 685 C, VP 1 mm Hg at 356 C, 10 mm Hg at 429 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1215 Thyroid gland		NA	a) 5 b) 2 c) 2	a) 1.5-81.1 ppm fresh wt b) 0.16-5.72 ppm fresh wt c) 0.46-0.79 ppm fresh wt	a) 14.14 ppm fresh wt b) 2.94 ppm fresh wt c) 0.63 ppm fresh wt	a) Mercury mine workers b) Idrija population c) Controls Post-mortem samples from 3 groups of people:workers in the mercury mine at Idrija, Slovenia, inhabitants of the town of Idrija, and a control group with no known exposure. MERCURY; SELENIUM; OCCUPATIONAL HAZARDS; URBAN AREAS; MINING; AUTOPSIES; THYROID GLANDS; PITUITARY GLAND; KIDNEYS; LIVER; LUNGS; BRAIN; YUGOSLAVIA; METALS; COMPARATIVE EVALUATIONS	Kosta, L. Byrne, A.R. Zelenko, V. 1975
1216 Urine	Inhalation Ingestion	NA	a) 4 b) 9 c) 12	a) 5.8-10.5 ng/ml b) 3.6-11.7 ng/ml c) 2.5-17.6 ng/ml	a) 8.2 ng/ml b) 7.0 ng/ml c) 7.4 ng/ml	a) Heavy occupational exposure b) Random exposure c) Controls 7 men, 29-58 yr working near Hg furnaces. 13 male miners, 40-54 yr working at extraction of Hg ore. 12 controls, relatives of above. Mines Furnaces MERCURY; SELENIUM; POPULATION EXPOSURE; ITALY; OCCUPATIONAL HAZARDS; BLOOD; URINE; HAIR; BIOACCUMULATION; MINERAL DEPOSITS; METALS; METABOLISM; AUTOPSIES	Rossi, L.C. Clemente, G.F. Santaroni, G. 1976
1217 Urine		NA		0.010-0.011 mg/l	0.010 mg/l	Reference sample - "normal" freeze-dried URINE; TRACE ELEMENTS; METALS; SELENIUM; COPPER; ARSENIC; NICKEL; CHROMIUM; COMPARATIVE EVALUATIONS	Gills, T.E. McClendon, L.T. Maienthal, E.J. Becker, D.A. Durst, R.A. LaFleur, P.D. 1974

Silica
7631-86-9
O2-Si
MW 60.08, MP 1610 C, BP 2230 C, VP 10 mm Hg at 1732 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1218 Lung		Colorimetry	98	0.014-2.155 mg/g dry wt	0.234 mg/g dry wt	Mean is geometric. Samples from deceased Cincinnati, OH residents, age range 23-96 years with a median of 66 years, evenly divided between men and women, blacks and whites. Occupations included foundry workers, machinists, farmers, domestics, homemakers, clerical workers. Deaths were from normal causes. METALS; TRACE ELEMENTS; ALUMINUM; CADMIUM; CHROMIUM; COBALT; COPPER; GERMANIUM; IODINE; LEAD; MAGNESIUM; MANGANESE; MOLYBDENUM; SELENIUM; TITANIUM; VANADIUM; ZINC; AUTOPSIES; LUNGS; LYMPH NODES; URBAN AREAS; OHIO	Sweet, D.V. Crouse, W.E. Crable, J.V. 1978
1219 Lung			26	30-560 mg/100g dry wt	206 mg/100g dry wt	None detected in 10 of the samples. Tissues from deceased West Virginia bituminous coal miners. METALS; MINERALS; BERYLLIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; NICKEL; TITANIUM; VANADIUM; ZINC; LUNGS; COAL; SILICA MATERIALS; WEST VIRGINIA; AUTOPSIES; MINING	Crable, J.V. Keenan, R.G. Kinser, R.E. Smallwood, A.W. Mauer, P.A. 1968
1220 Lymph node			5	570-2,430 mg/100g dry wt	1,056 mg/100g dry wt	None detected in 10 of the samples. Tissues from deceased West Virginia bituminous coal miners. METALS; MINERALS; BERYLLIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; NICKEL; TITANIUM; VANADIUM; ZINC; LUNGS; COAL; SILICA MATERIALS; WEST VIRGINIA; AUTOPSIES; MINING	Crable, J.V. Keenan, R.G. Kinser, R.E. Smallwood, A.W. Mauer, P.A. 1968

Silicon
7440-21-3
Si
AtW 28.086, MP 1410 C, BP 2600 C, VP 1 mm Hg at 1724 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1221 Blood				1000-5000 ug/l	Not given	Values are approximations. Method of analysis not given. CHROMIUM; TIN; VANADIUM; NICKEL; SILICON; BLOOD; URINE; METALS; MINERAL METABOLISM; TRACE ELEMENTS	Mertz, W. 1974
1222 Heart		AAS	a) 6 b) 6	a) 5.1-22.5 ug/g dry wt b) 2.9-11.0 ug/g dry wt	a) 12.2 ug/g dry wt b) 7.0 ug/g dry wt	a) Deaths from ischemic heart disease b) Controls Values are for heart muscle. 6 people who died of heart disease, aged 64-80 yr, and 6 controls, aged 24-82 yr. ALUMINUM; SILICON; METALS; TRACE ELEMENTS; HEART; HEART DISEASES	Chipperfield, R. Chipperfield, J.R. Bower, N.R. 1977
1223 Urine				Not given	15,000 ug/l	Values are approximations. Method of analysis not given. CHROMIUM; TIN; VANADIUM; NICKEL; SILICON; BLOOD; URINE; METALS; MINERAL METABOLISM; TRACE ELEMENTS	Mertz, W. 1974

Silver
7440-22-4
Ag
AtW 107.868, MP 960.5 C, BP 2000 C, VP 1 mm Hg at 1310 C, 10 mm Hg at 1540 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1224 Liver		ES	10	Not given	0.96 ug/g	Arithmetric mean Geometric mean=0.66 ug/g Concentrations based on ash weight. Samples from ten healthy adult males who were accident victims. METALS; SILVER; ALUMINUM; BARIUM; CADMIUM; COBALT; CHROMIUM; COPPER; IRON; MANGANESE; MOLYBDENUM; NICKEL; LEAD; TIN; STRONTIUM; TITANIUM; ZINC; LIVER	Perry, H.M., Jr. Perry, E.F. Hixon, R.B. 1977
1225 Placenta			58	0	0	No Ag found. Samples from 58 normal placentas collected immediately at delivery in hospitals in Charlotte, NC, Birmingham, AL and Augusta, GA. PLACENTA; MANGANESE; BARIUM; CADMIUM; SELENIUM; MERCURY; TIN; VANADIUM; BERYLLIUM; SILVER; COBALT; NICKEL; CHROMIUM; COPPER; ZINC; LEAD; IRON; PLATINUM; BORON; ARSENIC; LITHIUM; METALS; TRACE ELEMENTS; ENZYMES; GEORGIA; ALABAMA; NORTH CAROLINA	Karp, R.B. Robertson, A.F. 1977

Sodium
7440-23-5
Na
AtW 22.989977, MP 97.82 C, BP 881.4 C, VP 1 mm Hg at 440 C, 10 mm Hg at 546 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1226 Hair		AAS	10	500-3000 ug/g	Not given	Average of 95% Na extracted with 1% nitric acid Specimens from donors aged 12 to 60 yr and from various geographic exposure areas. SODIUM; MAGNESIUM; POTASSIUM; CALCIUM; MANGANESE; ZINC; NICKEL; COPPER; IRON; CADMIUM; LEAD; HAIR; NUTRITIONAL DEFICIENCIES; BIOACCUMULATION; MINERAL METABOLISM; METALS; TRACE ELEMENTS	Hinners, T.A. Terrill, W.J. Kent, J.L. Colucci, A.V. 1974

Strontium
7440-24-6
Sr
AtW 87.62, MP 357 C, BP 1366 C, VP 10 mm Hg at 898 C, 1 mm Hg at 740 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1227 Liver		ES	10	Not given	1.70 ug	Arithmetric mean Geometric mean=1.42 ug/g Concentrations based on ash weight Samples from ten healthy adult males who were accident victims. METALS; SILVER; ALUMINUM; BARIUM; CADMIUM; COBALT; CHROMIUM; COPPER; IRON; MANGANESE; MOLYBDENUM; NICKEL; LEAD; TIN; STRONTIUM; TITANIUM; ZINC; LIVER	Perry, H.M., Jr. Perry, E.F. Nixon, D.E. 1977
1228 Teeth		AAS	a) 35 b) 35 c) 52 d) 52	a) Not given b) Not given c) Not given d) Not given	a) 384.0 ppm b) 281.8 ppm c) 620.2 ppm d) 511.9 ppm	a) Surface enamel, Montana residents b) Inner enamel, Montana residents c) Surface enamel, Califorala and Oregon residents d) Inner enamel, California and Oregon residents Other data available. Samples from 12-14 yr old children who were life-long residents of their respective towns in Oregon, Montana, and California. STRONTIUM; METALS; FLUORINE; TEETH; DENTAL CARIES; MINERALS; SELENIUM; CALIFORNIA; MONTANA; OREGON; CHILDREN	Little, M.F. Barrett, E. 1976

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Strontium
7440-24-6
Sr
AtW 87.62, MP 357 C, BP 1366 C, VP 10 mm Hg at 898 C, 1 mm Hg at 740 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1229 Teeth		X-ray Spectrometry	a) 10 b) 16 c) 12	a) Not given b) Not given c) Not given	a) 478.0 ug/g dentin b) 97.7 ug/g dentin c) 87.3 ug/g dentin	a) 17th Century Hopi b) Contemporary Hopi c) Contemporary California High levels in 17th Century Hopi attributed to adding ash of plants to cornmeal, thus ingesting up to 20 mg Sr daily. Samples from individual skeletons of Hopi Indians dated 17th century, samples from contemporary Hopi Indian children in Arizona, and samples from children in suburban Northern California. Condition described as porotic hyperostosis in prehistoric Southwest Indians may have a strontium implication. LEAD; STRONTIUM; ZINC; COPPER; MERCURY; CALCIUM; PHOSPHORUS; METALS; TRACE ELEMENTS; MINERALS; TEETH; ARIZONA; CALIFORNIA; DIETS; BIOACCUMULATION; CHILDREN	Kuhnlein, H.V. Calloway, D.H. 1977

Strontium, isotope of mass 90
10098-97-2
Sr
At# 90, MP 757 C, BP 1384 C, VP 10 mm Hg at 998 C, 1 mm Hg at 740 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1230 Bone		Radiometry	a) 8 b) 3	a) 0.63-1.00 pCi/1g ash b) 1.02-1.33 pCi/1g ash	a) Not given b) Not given	a) Autopsy samples of females b) Autopsy samples of males Highest values were in oldest age groups. Age groups for females: 0-20, 40-50, 60-70, 70-90 years. Age groups for males: 40-50, 50-60, 60-70. Fallout from nuclear weapons tests, coal combustion. STRONTIUM-90; CESIUM-137; POLAND; RADIONUCLIDES; AIR POLLUTION; COAL; FALLOUT; ATMOSPHERE; SOILS; ANIMAL POPULATIONS; NUCLEAR WEAPONS; VEGETATION	Glowiak, B. Pacyna, J. 1978
1231 Brain		Radiochemistry	a) 8 b) 3	a) 0.37-0.43 pCi/1g ash b) 0.36-0.38 pCi/1g ash	a) Not given b) Not given	a) Autopsy samples of females. Highest value was in age group 40-50 yr b) Autopsy samples of males. Age groups for females: 0-20, 40-50, 60-70, 70-90 years. Age groups for males: 40-50, 50-60, 60-70. Fallout from nuclear weapons tests, coal combustion. STRONTIUM-90; CESIUM-137; POLAND; RADIONUCLIDES; AIR POLLUTION; COAL; FALLOUT; ATMOSPHERE; SOILS; ANIMAL POPULATIONS; NUCLEAR WEAPONS; VEGETATION	Glowiak, B. Pacyna, J. 1978

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Strontium, isotope of mass 90
10098-97-2
Sr
Atw 90, MP 757 C, BP 1366 C, VP 10 mm Hg at 898 C, 1 mm Hg at 740 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1232 Gonads		Radiometry	a) 4 b) 3	a) 0.28-0.39 pCi/1g ash b) 0.30-0.32 pCi/1g ash	a) Not given b) Not given	a) Autopsy samples of females b) Autopsy samples of males Highest value was in age group 0-20 of females. Age groups for females: 0-20, 40-50, 60-70, 70-90 years. Age groups for males: 40-50, 50-60, 60-70. Fallout from nuclear weapons tests, coal combustion STRONTIUM-90; CESIUM-137; POLAND; RADIONUCLIDES; AIR POLLUTION; COAL; FALLOUT; ATMOSPHERE; SOILS; ANIMAL POPULATIONS; NUCLEAR WEAPONS; VEGETATION	Glowiak, B. Pacyna, J. 1978
1233 Heart		Radiometry	a) 4 b) 3	a) 0.44-0.67 pCi/1g ash b) 0.62-0.86 pCi/1g ash	a) Not given b) Not given	a) Autopsy samples of females b) Autopsy samples of males Highest values were in oldest age groups. Age groups for females: 0-20, 40-50, 60-70, 70-90 years. Age groups for males: 40-50, 50-60, 60-70. Fallout from nuclear weapons tests, coal combustion STRONTIUM-90; CESIUM-137; POLAND; RADIONUCLIDES; AIR POLLUTION; COAL; FALLOUT; ATMOSPHERE; SOILS; ANIMAL POPULATIONS; NUCLEAR WEAPONS; VEGETATION	Glowiak, B. Pacyna, J. 1978

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Strontium, isotope of mass 90
10098-97-2
Sr
At# 90, MP 757 C, BP 1366 C, VP 10 mm Hg at 898 C, 1 mm Hg at 740 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1234 Liver		Radiometry	a) 4 b) 3	a) 0.067-0.22 pCi/1g ash b) 0.26-0.33 pCi/1g ash	a) Not given b) Not given	a) Autopsy samples of females b) Autopsy samples of males Highest values were in oldest age groups. Age groups for females: 0-20, 40-50, 60-70, 70-90 years. Age groups for males: 40-50, 50-60, 60-70. Fallout from nuclear weapons tests, coal combustion. STRONTIUM-90; CESIUM-137; POLAND; RADIONUCLIDES; AIR POLLUTION; COAL; FALLOUT; ATMOSPHERE; SOILS; ANIMAL POPULATIONS; NUCLEAR WEAPONS; VEGETATION	Glowiak, B. Pacyna, J. 1978
1235 Muscle		Radiometry	a) 4 b) 3	a) 0.022-0.043 pCi/1g ash b) 0.018-0.038 pCi/1g ash	a) Not given b) Not given	a) Autopsy samples of females b) Autopsy samples of males Highest values were in oldest age group. Age groups for females: 0-20, 40-50, 60-70, 70-90 years. Age groups for males: 40-50, 50-60, 60-70. Fallout from nuclear weapons tests, coal combustion. STRONTIUM-90; CESIUM-137; POLAND; RADIONUCLIDES; AIR POLLUTION; COAL; FALLOUT; ATMOSPHERE; SOILS; ANIMAL POPULATIONS; NUCLEAR WEAPONS; VEGETATION	Glowiak, B. Pacyna, J. 1978

Styrene (8 CI)
Benzene, ethenyl- (9 CI)
100-42-5
C8-H8
MW 104.14, MP -31 C, BP 145-146 C, VP 39.4 atm at 374.4 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1236 Adipose		GC/MS GC	13 of 25	0.1-1.2 ug/g	Not given	Not detected in workers 7 days after exposure Workers in a styrene polymerization plant. OCCUPATIONAL HAZARDS; INDUSTRIAL PLANTS; STYRENES; BENZENES; BENZALDEHYDE; TOLUENE; ADIPOSE TISSUE; VINYL COMPOUNDS	Wolff, M.S. Daum, S.M. Lorimer, W.V. Selikoff, I.J. Aubrey, B.B. 1977
1237 Adipose		GC	9	0.2-1.0 ppm	Not given	In subcutaneous fat of styrene polymerization workers. STYRENES; ADIPOSE TISSUE; INDUSTRIES; OCCUPATIONAL HAZARDS	Wolff, M.S. 1976
1238 Blood	Inhalation	Fluorometry	a) 9 b) 4 c) 2	a) Not given b) Not given c) Not given	a) 31 ppb b) 29 ppb c) 7 ppb	a) Styrene polymerization worker b) Styrene purification worker c) Styrene copolymerization worker Workers in styrene polymerization plant in the United States. Industrial contamination INDUSTRIAL POLLUTION; STYRENES; METABOLITES; BLOOD	Wolff, M.S. Lorimer, W.V. Lilis, R. Selikoff, I.J. 1978

Styrene, octachloro- (8 Cl)
Benzene, pentachloro(trichloroethenyl)- (9 Cl)
29082-74-4
C8-Cl8
MW 379.71

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1239 Blood, whole		GC-EC	35	a) 0-0.43 ppb b) 0-0.39 ppb c) 0-8.9(ppb	a) 0.20 ppb b) 0.24 ppb c) 1.24 ppb	a) Control b) Workers from polyvinyl chloride plant c) Workers from magnesium plant Control group of employees in the mercantile division. One group of workers in plant producing polyvinyl chloride. Third group of workers in plant producing magnesium. BLOOD; CHLORINATED HYDROCARBONS; INDUSTRIAL PLANTS; INDUSTRIAL ATMOSPHERES; MAGNESIUM; VINYL COMPOUNDS; OCCUPATIONAL HAZARDS; NORWAY; CHLOROBENZENES; STYRENES	Lunde, G. Bjorseth, A. 1977

Sulfide (VAN)
18496-25-8
S

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1240 Blood	Inhalation	ISE	5	1.70-3.75 ug/l	Not given	Autopsy specimens from petroleum company workers, city sewer employee and leather factory workers who died from exposure to hydrogen sulfide gas. CASE HISTORIES; MEASUREMENT METHODS; FORENSIC MEDICINE; BLOOD; AUTOPSIES; OCCUPATIONAL HAZARDS	McAnalley, B.H. Lowry, W.L. Oliver, R.D. Garriott, J.C. 1975

Thallium
7440-28-0
Tl
Atw 204.37, MP 303.5 C, BP 1457 C, VP 1 mm Hg at 825 C, 10 mm Hg at 1000 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1241 Blood, whole		APDC-MIBK AAS	320	0.0-8.0 ug/100 ml	0.3 ug/100 ml	No correlation between Pb and Tl in whole blood. Children between the ages of 1 and 5 years predominantly black and Spanish-speaking residents of Newark, NJ. 320 blood samples collected over a 4-year period, (1971-1974). BLOOD; THALLIUM; LEAD; CHILDREN; BIOACCUMULATION; METALS; NEW JERSEY	Singh, N.P. Bogden, J.D. Joselow, M.M. 1975

Theophylline (8 CI)
1H-Purine-2,6-dione, 3,7-dihydro-1,3-dimethyl- (9 CI)
58-55-9
C7-H8-N4-O2
MW 180.17, MP 270-274 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1242 Blood	Ingestion	GC	12	a) 1.9-6.4 ug/ml b) 2.2-9.5 ug/ml c) 2.5-5.8 ug/ml d) 1.3-5.7 ug/ml	a) 3.8 ug/ml b) 4.9 ug/ml c) 3.9 ug/ml d) 3.5 ug/ml	a) 130 mg Theophyllin elixir b) 130 mg elixir every 8 hr for 10 days c) 130 mg Theophylline, 25 mg ephedrine sulfate, 10 mg hydroxyzine hydrochloride in tablet every 8 hr for 10 days d) 130 mg Theophylline, 24 mg ephedrine hydrochloride, 8 mg phenobarbital every 8 hr for 10 days Average steady state levels (estimated from graph).. r 922 analy tf Modified dithizone method Unspecified number of workers from a lead battery factory. a) 4.62 hr b) 6.30 hr c) 5.84 hr d) 4.69 hr DRUGS; THEOPHYLLINES; AUTONOMIC DRUGS; BLOOD SERUM	Shen, D.D. Fixley, M. Azarnoff, D.L. 1978
1243 Blood	Ingestion	HPLC	a) 50 b) 15	a) 1-36 ug/ml b) 4-32 ug/ml	a) Not given b) Not given	a) Serum level, patients on theophylline therapy b) Whole blood levels for patients on theophylline therapy DRUGS; THEOPHYLLINES; MEASUREMENT METHODS; ALKALOIDS; BLOOD	Peat, M.A. Jennison, T.A. China, D.M. 1977

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Theophylline (8 CI)
1H-Purine-2,6-dione, 3,7-dihydro-1,3-dimethyl- (9 CI)
58-55-9
C7-H8-N4-O2
MW 180.17, MP 270-274 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1244 Blood, serum			1	a) Not applicable b) Not applicable c) Not applicable	a) 190 ug/ml b) 20 ug/ml c) 5 ug/ml	a) On admission after overdose b) After 6 hrs of charcoal hemoperfusion c) 30 hrs after admission 48 yr old woman who had consumed about 50 200 mg aminophylline tablets. Grand mal seizures, respiratory arrest, cardiac arrest, pararesis, decreased recent memory, flat affect. THEOPHYLLINES; DRUGS; BLOOD; BLOOD SERUM; CASE HISTORIES	Ehlers, S.M. Zaske, D.E. Sawchuk, R.J. 1978
1245 Blood, whole	Ingestion	HPLC	3 (24 samples)	a) Not given b) Not given c) Not given d) Not given	a) 7.6 mg/l b) 7.7 mg/l c) 15.6 mg/l d) 15.2 mg/l	a) Day 1, venous blood b) Day 1, capillary blood c) Day 2, venous blood d) Day 2, capillary blood Measured 2 hr post-dosing for a 200 mg dose given every 6 hr for 2 days. Healthy adult volunteers. DRUGS; ALKALOIDS; THEOPHYLLINES; BLOOD; SALIVA; MEASUREMENT METHODS	Manno, B.R. Manno, J.E. Hilman, B.C. 1979
1246 Saliva	Ingestion	HPLC	3 (24 samples)	a) Not given b) Not given	a) 4.3 mg/l b) 8.6 mg/l	a) Day 1, 2 hr post-dosing b) Day 2, 2 hr post-dosing Dose of 200 mg/6 hr for 2 days. Healthy adult volunteers. DRUGS; ALKALOIDS; THEOPHYLLINES; BLOOD; SALIVA; MEASUREMENT METHODS	Manno, B.R. Manno, J.E. Hilman, B.C. 1979

Thiazole, 5-(2-chloroethyl)-4-methyl-
533-45-9
C6-H8-Cl-N-S
MW 161,66, MP 232 C, BP 92 C at 7 mm Hg

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1247 Blood	Injection	MS	a) 6 b) 6 c) 6 d) 6 e) 8 f) 8 g) 8 h) 8	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 3200 ug/ml b) 150 ug/ml c) 10 ug/l d) 8 ug/l e) 3000 ug/l f) 250 ug/l g) 100 ug/l h) 30 ug/l	a) 0 hr b) 5 hr c) 10 hr d) 30 hr e) 0 hr f) 5 hr g) 10 hr h) 30 hr Levels after a 192-mg dose. Healthy males (mean age 47, mean weight >4 kg). e)-h) from patients (mean age 47 yr, mean weight 81 kg) with alcoholic liver cirrhosis. 6.6 hr (a-d) 8.7 hr (e-h) DRUGS; SEDATIVES; BLOOD; CIRRHOSIS	Pentikainen, P.J. Neuvonen, P.J. Tarpila, S. Syvalahti, E. 1978
1248 Blood		GC	1	Not applicable	32.0 mg/l	Alcohol and dothiepin also present. Death due to drug overdose. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, R. 1979

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Thiazole, 5-(2-chloroethyl)-4-methyl-
533-45-3
C6-H8-Cl-N-S
MW 161.66, MP 232 C, BP 92 C at 7 mm Hg

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1249 Urine		GC	1	Not applicable	7.0 mg/l	Alcohol and dothiepin also present. Death due to drug overdose. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, R. 1979

Thiocyanic acid, ion(1-) (8 CI)
Thiocyanate (9 CI)
302-04-5
C-N-S
MW 58.08

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1250 Blood		Colorimetry	a) 13 b) 13 c) 18 d) 18	a) 96-355 ug/100 ml b) 23-90 ug/100 ml c) 381-1156 ug/100 ml d) 72-273 ug/100 ml	a) 193 ug/100 ml b) 48 ug/100 ml c) 674 ug/100 ml d) 150 ug/100 ml	a) Nonsmokers - plasma b) Nonsmokers - whole blood c) Smokers - plasma d) Smokers - whole blood Effects of temperature and storage of samples also studied. Two groups, smokers and nonsmokers. BLOOD; THIOCYANATES; SMOKING; BLOOD PLASMA; COMPARATIVE EVALUATIONS	Ballantyne, B. 1977

Tin
7440-31-5
Sn
AtW 118.69, MP 231.9 C, BP 2507 C, VP 1 mm Hg at 1610 C, 10 mm Hg at 1890 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1251 Blood				Not Given	140 ug/l	Values are approximations. Method of analysis not given. CHROMIUM; TIN; VANADIUM; NICKEL; SILICON; BLOOD; URINE; METALS; MINERAL METABOLISM; TRACE ELEMENTS	Hertz, W. 1974
1252 Liver		ES	10	Not given	37.5 ug/g	Arithmetric mean Geometric mean=18.0 ug/g Concentrations based on ash weight Samples from ten healthy adult males who were accident victims. METALS; SILVER; ALUMINUM; BARIUM; CADMIUM; COBALT; CHROMIUM; COPPER; IRON; MANGANESE; MOLYBDENUM; NICKEL; LEAD; TIN; STRONTIUM; TITANIUM; ZINC; LIVER	Perry, H.M., Jr. Perry, E.F. Hixon, B.B. 1977
1253 Placenta			58	a) Not given b) 0 c) Not given d) 0	a) 0.003 ug/g wet wt b) 0 c) 0.009 ug/g wet wt d) 0	a) All cities b) Augusta, GA c) Birmingham, AL d) Charlotte, NC Metal levels correlated with enzyme activities. Samples from 58 normal placentas collected immediately at delivery in hospitals in Charlotte, NC, Birmingham, AL and Augusta, GA. PLACENTA; MANGANESE; BARIUM; CADMIUM; SELENIUM; MERCURY; TIN; VANADIUM; BERYLLIUM; SILVER; COBALT; NICKEL; CHROMIUM; COPPER; ZINC; LEAD; IRON; PLATINUM; BORON; ARSENIC; LITHIUM; METALS; TRACE ELEMENTS; ENZYMES; GEORGIA; ALABAMA; NORTH CAROLINA	Karp, W.B. Robertson, A.F. 1977

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Tin
7440-31-5
Sn
AtW 118.69, MP 231.9 C, BP 2507 C, VP 1 mm Hg at 1610 C, 10 mm Hg at 1890 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1254 Urine				10-20 ug/l	Not given	Values are approximations. Method of analysis not given. CHROMIUM; TIN; VANADIUM; NICKEL; SILICON; BLOOD; URINE; METALS; MINERAL METABOLISM; TRACE ELEMENTS	Hertz, W. 1974

Titanium
7440-32-6
Ti
AtW 47.90, MP 1677 C, BP 3277 C, VP 1 mm Hg at 2180 C, 10 mm Hg at 2480 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1255 Liver		ES	10	Not given	15.0 ug/g	Arithmetic mean Geometric mean=9.60 ug/g Concentrations based on ash weight Samples from ten healthy adult males who were accident victims. METALS; SILVER; ALUMINUM; BARIUM; CADMIUM; COBALT; CHROMIUM; COPPER; IRON; MANGANESE; MOLYBDENUM; NICKEL; LEAD; TIN; STRONTIUM; TITANIUM; ZINC; LIVER	Perry, H.M., Jr. Perry, E.F. Hixon, R.B. 1977
1256 Lung		ES	98	3.6-1400 ug/g dry wt	38.7 ug/g dry wt	Mean is geometric. Samples from deceased Cincinnati, OH residents, age range 23-96 years with a median of 66 years, evenly divided between men and women, blacks and whites. Occupations included foundry workers, machinists, farmers, domestics, homemakers, clerical workers. Deaths were from normal causes. METALS; TRACE ELEMENTS; ALUMINUM; CADMIUM; CHROMIUM; COBALT; COPPER; GERMANIUM; IODINE; LEAD; MAGNESIUM; MANGANESE; MOLYBDENUM; SELENIUM; TITANIUM; VANADIUM; ZINC; AUTOPSIES; LUNGS; LYMPH NODES; URBAN AREAS; OHIO	Sweet, D.V. Crouse, W.E. Crable, J.V. 1978
1257 Lung		ES	26	5.6-302 ug/g dry wt	119 ug/g dry wt	None detected in 13 of the samples. Tissues from deceased West Virginia bituminous coal miners. METALS; MINERALS; BERYLLIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; NICKEL; TITANIUM; VANADIUM; ZINC; LUNGS; COAL; SILICA MATERIALS; WEST VIRGINIA; AUTOPSIES; MINING	Crable, J.V. Keenan, R.G. Pinner, S.F. Smallwood, A.W. Bauer, P.A. 1968

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Titanium
7440-32-6
Ti
AtW 47.90, MP 1677 C, BP 3277 C, VP 1 mm Hg at 2180 C, 10 mm Hg at 2480 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1258 Lymph node		Colorimetry	98	9.7-2.5 E+4 ug/g dry wt	1700 ug/g dry wt	Mean is geometric. Samples from deceased Cincinnati, OH residents, age range 23-96 years with a median of 66 years, evenly divided between men and women, blacks and whites. Occupations included foundry workers, machinists, farmers, domestics, homemakers, clerical workers. Deaths were from normal causes. METALS; TRACE ELEMENTS; ALUMINUM; CADMIUM; CHROMIUM; COBALT; COPPER; GERMANIUM; IODINE; LEAD; MAGNESIUM; MANGANESE; MOLYBDENUM; SELENIUM; TITANIUM; VANADIUM; ZINC; AUTOPSIES; LUNGS; LYMPH NODES; URBAN AREAS	Sweet, D.V. Crouse, W.E. Crable, J.V. 1978

Toluene (8 CI)
Benzene, methyl- (9 CI)
108-88-3
C7-H8
MW 92.13, MP -95 to -94.5 C, BP 110.6 C, VP 36.7 mm Hg at 30 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1259 Adipose		GC/MS GC	16 of 25	Trace-0.3 ug/g	Not given	Workers in a styrene polymerization plant. OCCUPATIONAL HAZARDS: INDUSTRIAL PLANTS; STYRENES; BENZENES; BENZALDEHYDE; TOLUENE; ADIPOSE TISSUE; VINYL COMPOUNDS	Wolff, M.S. Daum, S.M. Lorimer, W.V. Selikoff, I.J. Aubrey, B.B. 1977
1260 Blood	Inhalation	GC	1	Not applicable	0.8 mg/dl	Samples from deceased 13 year old black male Cyanosis of brain, multiple petechiae of epicardial surface, dilation of heart with tiger-striped appearance of the myocardium. Congestion and edema of lungs. Congestion of conjunctivae. Skin slippage of forearm and hand. FORENSIC MEDICINE; CASE HISTORIES; CHLORINATED HYDROCARBONS; HEALTH HAZARDS; BLOOD; LIVER; BRAIN	Bonventre, J. Brennan, O. Jason, D. Henderson, A. Bastos, M.L. 1978

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Toluene (8 CI)
Benzene, methyl- (9 CI)
108-88-3
C7-H8
MW 92.13, MP -95 to -94.5 C, BP 110.6 C, VP 36.7 mm Hg at 30 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1261 Brain	Inhalation	GC	1	Not applicable	4.6 mg/100g	Samples from deceased 13 year old black male Cyanosis of brain, multiple petecchiae of epicardial surface, dilation of heart with tiger-striped appearance of the myocardium. Congestion and edema of lungs. Congestion of conjunctivae. Skin slippage of forearms and hand. FORENSIC MEDICINE; CASE HISTORIES; CHLORINATED HYDROCARBONS; HEALTH HAZARDS; BLOOD; LIVER; BRAIN	Bonventre, J. Brennan, O. Jason, D. Henderson, A. Bastos, M.L. 1978
1262 Liver	Inhalation	GC	1	Not applicable	1.6 mg/100g	Samples from deceased 13 year old black male Cyanosis of brain, multiple petecchiae of epicardial surface, dilation of heart with tiger-striped appearance of the myocardium. Congestion and edema of lungs. Congestion of conjunctivae. Skin slippage of forearms and hand. FORENSIC MEDICINE; CASE HISTORIES; CHLORINATED HYDROCARBONS; HEALTH HAZARDS; BLOOD; LIVER; BRAIN	Bonventre, J. Brennan, O. Jason, D. Henderson, A. Bastos, M.L. 1978

Total BHC (No postings in CHEMLINE).
58-89-9
C6-H6-Cl6
MW 290.85, MP gamma-isomer crystals 112.5 C, BP 323.4 C, 176.2 C at 10 mm Hg, VP 0.14 mm Hg at 40 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1263 Adipose		CC GC	30	0.16-5.43 ppm	2.36 ppm	30 samples of adipose tissue obtained from 18 males and 12 females in Tokyo in 1974. Blood collected from 10 subjects in 1975. BLOOD; ADIPOSE TISSUE; PESTICIDES; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; JAPAN; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED TERPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE	Fukano, S. Doguchi, M. 1977

Total DDT (No postings in CHEMLINE).
50-29-3
C14-H9-C15
MW 354.50, MP 108.5-109 C, BP 260 C, VP 1.5X10(E-7) mm Hg at 20 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1264 Adipose		GC-EC	170	0.812-61.69 ppm	8.13 ppm	Subcutaneous adipose tissue of the abdomen from 170 autopsy cases of sudden death collected at Medicolegal Center of Tehran. Ages from 4-91 years. PESTICIDES; ADIPOSE TISSUE; IRAN; CHLORINATED HYDROCARBONS; DIELDRIN; DDT; BIOACCUMULATION; METABOLITES; CHLORINE ORGANIC COMPOUNDS; AUTOPSIES; AGE; DDE; HEXACHLOROCYCLOHEXANE	Hashemy-Tonkabony, S.E. Soleimani-Amiri, M.J. 1978
1265 Adipose		CC GC-EC	a) 5 b) 9	a) 5.48-13.13 ppm b) 0.95-11.26 ppm	a) 8.9216 ppm b) 4.6426 ppm	a) Control-adjacent to breast tissue b) Adjacent to malignant breast tissue Values represent the concentrations in extracted lipids. Malignant tissue, adjacent to apparently normal glandular and adipose tissue of nine women with adenocarcinoma of the breast, obtained from the A.C. Camargo Hospital in Sao Paulo. Mammary gland and adjacent adipose tissue from 5 healthy women who died accidentally used for controls. BREAST; MAMMARY GLANDS; NEOPLASMS; ADIPOSE TISSUE; CARCINOMAS; PESTICIDES; LIPIDS; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; BIPHENYL COMPOUNDS; DIELDRIN; POLYCHLORINATED BIPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE; DDD; HEPTACHLOR EPOXIDE	Wassermann, M. Nogueira, D.P. Tomatis, L. Mirra, A.P. Shibata, H. Arie, G. Cucos, S. Wassermann, D. 1976

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Total DDT (No postings in CHEMLINE).
50-29-3
C14-H9-Cl5
MW 354.50, MP 108.5-109 C, BP 260 C, VP 1.5X10(E-7) mm Hg at 20 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1266 Adipose		CC GC-EC	a) 5 b) 9	a) 5.36-13.09 ppm b) 0.52-5.37 ppm	a) 8.7597 ppm b) 2.5630 ppm	a) Control-adjacent to breast tissue b) Adjacent to malignant breast tissue Values represent the concentrations in extracted lipids. Malignant tissue, adjacent to apparently normal glandular and adipose tissue of nine women with adenocarcinoma of the breast, obtained from the A.C. Camargo Hospital in Sao Paulo. Mammary gland and adjacent adipose tissue from 5 healthy women who died accidentally used for controls. BREAST; MAMMARY GLANDS; NEOPLASMS; ADIPOSE TISSUE; CARCINOMAS; PESTICIDES; LIPIDS; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; BIPHENYL COMPOUNDS; DIELDRIN; POLYCHLORINATED BIPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE; DDT; HEPTACHLOR EPOXIDE	Wassermann, M. Nogueira, D.P. Tomatis, L. Mirra, A.P. Shibata, H. Arie, G. Cucos, S. Wassermann, D. 1976
1267 Adipose		CC GC	30	0.41-7.64 ppm	3.59 ppm	30 samples of adipose tissue obtained from 18 males and 12 females in Tokyo in 1974. Blood collected from 10 subjects in 1975. BLOOD; ADIPOSE TISSUE; PESTICIDES; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; JAPAN; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED TERPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE	Fukano, S. Doguchi, M. 1977

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Total DDT (No postings in CHEMLINE).
50-29-3
C14-H9-Cl5
MW 354.50, MP 108.5-109 C, BP 260 C, VP 1.5X10(E-7) mm Hg at 20 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1268 Adipose		GC GC-EC	8	Not given	0.0136 ppm	In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DDT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977
1269 Adipose		TLC GC/MS GC-EC	a) 1412 b) 1615 c) 1913 d) 1095 e) 898	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 7.88 ppm b) 7.95 ppm c) 6.88 ppm d) 5.88 ppm e) 8.99 ppm	a) 1970 survey, 99.93% positive samples b) 1971 survey, 99.75% positive samples c) 1972 survey, 99.95% positive samples d) 1973 survey, 100% positive samples e) 1974 survey, 99.89% positive samples Means are geometric. Samples from lactating women in selected areas of Arkansas and Mississippi. PESTICIDES; ADIPOSE TISSUE; MILK; URINE; BIOACCUMULATION; BIPHENYL COMPOUNDS; CHLORINATED HYDROCARBONS; ARKANSAS; MISSISSIPPI	Kutz, F.W. Strassman, S.C. Yobs, A.R. 1977

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Total DDT (No postings in CHEMLINE).
50-29-3
C14-H9-C15
MW 354.50, MP 108.5-109 C, BP 260 C, VP 1.5X10(E-7) mm Hg at 20 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1270 Adipose		GC-EC		a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 7.8 ppm b) 7.9 ppm c) 6.8 ppm d) 5.7 ppm e) 4.1 ppm f) 4.3 ppm Geometric	a) FY 70 b) FY 71 c) FY 72 d) FY 73 e) FY 74 f) FY 75 Data from general population, collected by Nat'l Human Monitoring Program for Pesticides. PESTICIDES; CHLOROBENZENES; CHLORINE ORGANIC COMPOUNDS; DDT; UNITED STATES	Kutz, F.W. Strassman, S.C. Sperling, J.F. 1978
1271 Amniotic fluid		GC GC-EC	8	Not given	90.9360 ppm	In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DDT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Bon, M. 1977

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Total DDT (No postings in CHEMLINE).
50-29-3
C14-H9-Cl5
MW 354.50, MP 108.5-109 C, BP 260 C, VP 1.5X10(E-7) mm Hg at 20 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1272 Blood		GC GC-EC	a) 24 b) 23	a) Not given b) Not given	a) 4.5774 ppm b) 10.5870 ppm	a) Maternal b) Fetal In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DDT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977
1273 Blood, serum		GC-EC	a) 507 b) 478 c) 884 d) 67 e) 960	a) Not given b) Not given c) Not given d) Not given e) 9.93-46.89 ppb	a) 33.36 ppb b) 24.65 ppb c) 28.83 ppb d) 37.09 ppb e) 28.86 ppb	a) Males b) Females c) No occupational exposure d) Possible occupational exposure e) Overall sample by county of residence Samples from 1,035 volunteers representing 38 counties participating in Adult Health Screening Program from August 1968 to April 1970. Occupations grouped in categories as related to pesticides, not related to pesticides, and unknown. Race was excluded as a variable. Agricultural application BLOOD SERUM; CHLORINATED HYDROCARBONS; PESTICIDES; RURAL AREAS; AGRICULTURE; DDE; DDT; DIELDRIN; MICHIGAN	Bloomer, A.W. Nash, S.I. Price, H.A. Welch, R.L. 1977

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Total DDT (No postings in CHEMLINE).
50-29-3
C14-H9-Cl5
MW 354.50, MP 108.5-109 C, BP 260 C, VP 1.5X10(E-7) mm Hg at 20 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1274 Mammary gland		CC GC-EC	a) 5 b) 9 c) 9	a) 8.29-18.30 ppm b) 4.07-29.39 c) 1.99-11.56 ppm	a) 12.4910 ppm b) 13.5697 ppm c) 6.3001 ppm	a) Control b) Malignant c) Breast tissue adjacent to malignancy Malignant tissue, adjacent to apparently normal glandular and adipose tissue of nine women with adenocarcinoma of the breast, obtained from the A.C. Camargo Hospital in Sao Paulo. Mammary gland and adjacent adipose tissue from 5 healthy women who died accidentally used for controls. BREAST; MAMMARY GLANDS; NEOPLASMS; ADIPOSE TISSUE; CARCINOMAS; PESTICIDES; LIPIDS; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; BIPHENYL COMPOUNDS; DIELDRIN; POLYCHLORINATED BIPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Wassermann, M. Nogueira, D.P. Tozatis, L. Mirra, A.P. Shibata, H. Arie, G. Cucos, S. Wassermann, D. 1976

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Total DDT (No postings in CHEMLINE).
50-29-3
C14-H9-Cl5
MW 354,50, MP 108.5-109 C, BP 260 C, VP 1.9X10(E-7) mm Hg at 20 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1275 Mammary gland		GC GC-EC	a) 5 b) 9 c) 9	a) 8.61-16.78 ppm b) 1.84-12.38 ppm c) 0.82-7.50 ppm	a) 11.5109 ppm b) 7.4237 ppm c) 3.9327 ppm	a) Control b) Malignant c) Breast tissue adjacent to malignancy Malignant tissue, adjacent to apparently normal glandular and adipose tissue of nine women with adenocarcinoma of the breast, obtained from the A.C. Camargo Hospital in Sao Paulo. Mammary gland and adjacent adipose tissue from 5 healthy women who died accidentally used for controls. BREAST; MAMMARY GLANDS; NEOPLASMS; ADIPOSE TISSUE; CARCINOMAS; PESTICIDES; LIPIDS; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; BIPHENYL COMPOUNDS; DIELDRIN; POLYCHLORINATED BIPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE; DDD; HEPTACHLOR EPOXIDE	Wassermann, M. Nogueira, D.P. Tomatis, L. Barra, A.P. Shibata, H. Arie, G. Cucos, S. Wassermann, D. 1976
1276 Milk		GC-EC	a) 5 b) 5	a) Not given b) Not given	a) 223 gamma/day b) 187 gamma/day	a) Breast-feeding mothers with one child b) Breast-feeding mothers with twins. Data for 1974 Two groups of breast-feeding mothers, one group feeding one infant and the other group feeding twins. PESTICIDES; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BREAST; INFANTS; FOODS	Adamovic, V.M. Sokic, B. Smiljanski, M-J 1978

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Total DDT (No postings in CHEMLINE).
50-29-3
C14-H9-Cl5
MW 354.50, MP 108.5-109 C, BP 260 C, VP 1.5X10(E-7) mm Hg at 20 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1277 Milk, whole		TLC GC/MS GC-EC	57	0.02-2.76 ppm	0.38 ppm	100% positive samples Samples from residents of Arkansas and Mississippi. PESTICIDES; ADIPOSE TISSUE; MILK; URINE; BIOACCUMULATION; BIPHENYL COMPOUNDS; CHLORINATED HYDROCARBONS; ARKANSAS; MISSISSIPPI	Kutz, F.W. Strassman, S.C. Yobs, A.R. 1977
1278 Placenta		CC GC-EC	19	Not given	9.4958 ppm	In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DIT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977
1279 Uterus		CC GC-EC	7	Not given	11.7825 ppm	In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DIT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977

Total o,p'-DDT (No postings in CHEMLINE).
789-02-6
C14-H9-C15
MW 354.49, BP 74-7[illegible] C (cor)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1280 Adipose		CC GC-EC	a) 5 b) 9	a) 0.04-0.33 ppm b) 0.18-5.88 ppm	a) 0.1619 ppm b) 2.0796 ppm	a) Control-adjacent to breast tissue b) Adjacent to malignant breast tissue Values represent the concentrations in extracted lipids. Malignant tissue, adjacent to apparently normal glandular and adipose tissue of nine women with adenocarcinoma of the breast, obtained from the A.C. Camargo Hospital in Sao Paulo. Mammary gland and adjacent adipose tissue from 5 healthy women who died accidentally used for controls. BREAST; MAMMARY GLANDS; NEOPLASMS; ADIPOSE TISSUE; CARCINOMAS; PESTICIDES; LIPIDS; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; BIPHENYL COMPOUNDS; DIELDRIN; POLYCHLORINATED BIPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE; DDD; HEPTACHLOR EPOXIDE	Wassermann, M. Nogueira, D.P. Tomatis, L. Mirra, A.P. Shibata, H. Arie, G. Cucos, S. Wassermann, D. 1976

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Total o,p'-DDT (No postings in CHEMLINE).
789-02-6
C14-H9-C15
MW 354.49, BP 78-74.5 C (cor)

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1289 Mammary gland		CC GC-EC	a) 5 b) 9 c) 9	a) 0.28-1.52 ppm b) 2.23-17.01 ppm c) 0.40-0.45 ppm	a) 0.9601 ppm b) 6.0854 ppm c) 2.3674 ppm	a) Control b) Malignant c) Breast tissue adjacent to malignancy Values represent the concentrations in extracted lipids. Malignant tissue, adjacent to apparently normal glandular and adipose tissue of nine women with adenocarcinoma of the breast, obtained from the A.C. Camargo Hospital in Sao Paulo. Mammary gland and adjacent adipose tissue from 5 healthy women who died accidentally used for controls. (BREAST; MAMMARY GLANDS; NEOPLASMS; ADIPOSE TISSUE; CARCINOMAS; PESTICIDES; LIPIDS; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; BIPHENYL COMPOUNDS; DIELDRIN; POLYCHLORINATED BIPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE; DDD; HEPTACHLOR EPOXIDE	Wassermann, M. Noqueira, D.P. Tomatis, L. Mirra, A.P. Shibata, H. Arie, G. Cucos, S. Wassermann, D. 1976

Tungsten
7440-33-7
W
AtW 183.85, MP 3410 C, BP 5900 C, VP 1 mm Hg at 3980 C, 10 mm Hg at 4490 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1282 Skin		NA	a) 5 b) 5 c) 10 (Samples)	a) 0.1-0.3 ug/g dry wt b) 0.05-0.2 ug/g dry wt c) 0.03-0.3 ug/g dry wt	a) 0.16 ug/g dry wt b) 0.20 ug/g dry wt c) 0.14 ug/g dry wt	a) Normal b) Psoriatic uninvolved c) Psoriatic involved Specimens from trunk region of 14 males in Sweden. 9 were suffering from psoriasis (ages 0-59 yr, mean 46), and 5 had no evidence of skin disorder (ages 19-57 yr, mean 33). BROMINE; CADMIUM; CHROMIUM; MOLYBDENUM; RUBIDIUM; SELENIUM; ARSENIC; GOLD; CESIUM; MERCURY; LANTHANUM; ANTIMONY; SCANDIUM; SAMARIUM; TUNGSTEN; EPIDERMIS; SKIN DISEASES; METALS; TRACE ELEMENTS	Molin, L. Wester, P.O. 1974

Valeric acid, 2-propyl-, sodium salt (8 CI)
Pentanoic acid, 2-propyl-, sodium salt (9 CI)
1069-66-5
C8-H16-O2.Na

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1283 Blood, serum	Ingestion	GC	3	Not given	55.9 ug/ml	4 hr after a 1000 mg dose - 94.8% was protein bound. DRUGS; ANTICONVULSANTS; BLOOD SERUM; PROTEINS	Loscher, W. 1978

Vanadium
7440-62-2
AtW 50.9414, MP 1917 C, BP 3000 C, VP 1 mm Hg at 2290 C, 10 mm Hg at 2570 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1294 Adipose	Inhalation Ingestion	NA	4	0.3-0.80 ng/g wet wt	Not given	Total body pool is estimated at 106 ug, based on organ weight of the ICRP Reference Man (10 kg bone at 3 ng/g, 5 kg blood at < or = 0.2, 28 kg muscle at 0.5, 15 kg fat at 0.7, 1.8 kg liver at 10, 1.4 kg brain at 0.7, 1 kg lung at 30, 0.3 kidney at 5). Vanadium, generally considered essential for growth in mammals, is usually low in foodstuffs. The low level in milk, eggs, and some other tissues imply that its requirement for growth is minimal and probably less than previously estimated. In air, from combustion of fossil fuels, and a part from natural dusts derived from soils. food. METALS; VANADIUM; URINE; FECES; HAIR; BONES; TEETH; KIDNEYS; LIVER; BRAIN; THYROID GLANDS; HEART; ADIPOSE TISSUE; MUSCLES; SPLEEN; PANCREAS; LUNGS; BLOOD	Byrne, A.R. Kosta, L. 1978

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Vanadium
7440-62-2
AtW 50.9414, MP 1917 C, BP 3000 C, VP 1 mm Hg at 2290 C, 10 mm Hg at 2570 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1285 Bile	Inhalation Ingestion	NA	3	0.55-1.85 ng/g	Not given	Total body pool is estimated at 706 ug, based on organ weight of the ICRP Reference Man (10 kg bone at 3 ng/g, 5 kg blood at < or = 0.2, 28 kg muscle at 0.5, 15 kg fat at 0.7, 1.8 kg liver at 10, 1.4 kg brain at 0.7, 1 kg lung at 30, 0.3 kidney at 5). Vanadium, generally considered essential for growth in mammals, is usually low in foodstuffs. The low level in milk, eggs, and some other tissues imply that its requirement for growth is minimal and probably less than previously estimated. In air, from combustion of fossil fuels, and a part from natural dusts derived from soils. food. METALS; VANADIUM; URINE; FECES; HAIR; BONES; TEETH; KIDNEYS; LIVER; BRAIN; THYROID GLANDS; HEART; ADIPOSE TISSUE; MUSCLES; SPLEEN; PANCREAS; LUNGS; BLOOD	Byrne, A.R. Kosta, L. 1978
1286 Blood				Not given	10 ug/l	Values are approximations. Method of analysis not given. CHROMIUM; TIN; VANADIUM; NICKEL; SILICON; BLOOD; URINE; METALS; MINERAL METABOLISM; TRACE ELEMENTS	Mertz, W. 1974

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Vanadium
7440-62-2
AtW 50.9414, MP 1917 C, BP 3000 C, VP 1 mm Hg at 2290 C, 10 mm Hg at 2570 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1287 Blood	Inhalation Ingestion	NA	4	<0.2-<0.4 ng/g	Not given	Total body pool is estimated at 106 ug, based on organ weight of the ICRP Reference Man (10 kg bone at 3 ng/g, 5 kg blood at < or = 0.2, 28 kg muscle at 0.5, 15 kg fat at 0.7, 1.8 kg liver at 10, 1.4 kg brain at 0.7, 1 kg lung at 20, 0.3 kidney at 5). Vanadium, generally considered essential for growth in mammals, is usually low in foodstuffs. The low level in milk, eggs, and some other tissues imply that its requirement for growth is minimal and probably less than previously estimated. In air, from combustion of fossil fuels, and a part from natural dusts derived from soils. Food. METALS; VANADIUM; URINE; FECES; HAIR; BONES; TEETH; KIDNEYS; LIVER; BRAIN; THYROID GLANDS; HEART; ADIPOSE TISSUE; MUSCLES; SPLEEN; PANCREAS; LUNGS; BLOOD	Byrne, A.R. Kosta, L. 1978

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Vanadium
7440-62-2
AtW 50.9414, MP 1917 C, BP 3000 C, VP 1 mm Hg at 2290 C, 10 mm Hg at 2570 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1288 Bone	Inhalation Ingestion	NA	7	0.8-8.3 ng/g	Not given	Total body pool is estimated at 106 ug, based on organ weight of the ICRP Reference Man (10 kg bone at 3 ng/g, 5 kg blood at < or = 0.2, 28 kg muscle at 0.5, 15 kg fat at 0.7, 1.8 kg liver at 10, 1.4 kg brain at 0.7, 1 kg lung at 30, 0.3 kidney at 5). Vanadium, generally considered essential for growth in mammals, is usually low in foodstuffs. The low level in milk, eggs, and some other tissues imply that its requirement for growth is minimal and probably less than previously estimated. In air, from combustion of fossil fuels, and a part from natural dusts derived from soils. Food. METALS; VANADIUM; URINE; FECES; HAIR; BONES; TEETH; KIDNEYS; LIVER; BRAIN; THYROID GLANDS; HEART; ADIPOSE TISSUE; MUSCLES; SPLEEN; PANCREAS; LUNGS; BLOOD	Byrne, A.R. Kosta, L. 1978
1289 Bone		AAS	6	0.1-0.20 ug/g wet wt	Not given	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Vanadium
7440-62-2
AtW 50.9414, MP 1917 C, BP 3000 C, VP 1 mm Hg at 2290 C, 10 mm Hg at 2570 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1290 Brain	Inhalation Ingestion	NA	2	< or = 0.7-0.75 ng/g wet wt	Not given	Total body pool is estimated at 106 ug, based on organ weight of the ICRP Reference Man (10 kg bone at 3 ng/g, 5 kg blood at < or = 0.2, 28 kg muscle at 0.5, 15 kg fat at 0.7, 1.8 kg liver at 10, 1.4 kg brain at 0.7, 1 kg lung at 30, 0.3 kidney at 5). Vanadium, generally considered essential for growth in mammals, is usually low in foodstuffs. The low level in milk, eggs, and some other tissues imply that its requirement for growth is minimal and probably less than previously estimated. In air, from combustion of fossil fuels, and a part from natural dusts derived from soils. Food. METALS; VANADIUM; URINE; FECES; HAIR; BONES; TEETH; KIDNEYS; LIVER; BRAIN; THYROID GLANDS; HEART; ADIPOSE TISSUE; MUSCLES; SPLEEN; PANCREAS; LUNGS; BLOOD	Byrne, A.R. Kosta, L. 1978

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Vanadium
7440-62-2
AtW 50.9414, MP 1917 C, BP 3000 C, VP 1 mm Hg at 2290 C, 10 mm Hg at 2570 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
129* Hair	Inhalation Ingestion	NA	12	12-87 ng/g	40 plus or minus 20 ng/g	Total body pool is estimated at 106 ug, based on organ weight of the ICRP Reference Man [70 kg bone at 3 ng/g, 5 kg blood at < or = 0.2, 28 kg muscle at 0.5, 15 kg fat at 0.7, 1.8 kg liver at 10, 1.4 kg brain at 0.7, 1 kg lung at 30, 0.3 kidney at 5). Vanadium, generally considered essential for growth in mammals, is usually low in foodstuffs. The low level in milk, eggs, and some other tissues imply that its requirement for growth is minimal and probably less than previously estimated. In air, from combustion of fossil fuels, and a part from natural dusts derived from soils. food. *METALS; VANADIUM; URINE; FECES; HAIR; BONES; TEETH; KIDNEYS; LIVER; BRAIN; THYROID GLANDS; HEART; ADIPOSE TISSUE; MUSCLES; SPLEEN; PANCREAS; LUNGS; BLOOD	Byrne, A.R. Kosta, L. 1978

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Vanadium
7440-62-2
At# 50.9414, MP 1917 C, BP 3000 C, VP 1 mm Hg at 2290 C, 10 mm Hg at 2570 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1292 Heart	Inhalation Ingestion	NA	1	Not applicable	1.1 ng/g wet wt	Total body pool is estimated at 106 ug, based on organ weight of the ICRP Reference Man (10 kg bone at 3 ng/g, 5 kg blood at < or = 0.2, 28 kg muscle at 0.5, 15 kg fat at 0.7, 1.8 kg liver at 10, 1.4 kg brain at 0.7, 1 kg lung at 30, 0.3 kidney at 5). Vanadium, generally considered essential for growth in mammals, is usually low in foodstuffs. The low level in milk, eggs, and some other tissues imply that its requirement for growth is minimal and probably less than previously estimated. In air, from combustion of fossil fuels, and a part from natural dusts derived from soils. food. METALS; VANADIUM; URINE; FECES; HAIR; BONES; TEETH; KIDNEYS; LIVER; BRAIN; THYROID GLANDS; HEART; ADIPOSE TISSUE; MUSCLES; SPLEEN; PANCREAS; LUNGS; BLOOD	Byrne, A.R. Kosta, L. 1978

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Vanadium
7440-62-2
AtW 50.9410, MP 1917 C, BP 3000 C, VP 1 mm Hg at 2290 C, 10 mm Hg at 2570 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1293 Kidney	Inhalation Ingestion	NR	3	2.6-3.3 ng/g wet wt	3.0 ng/g wet wt	Total body pool is estimated at 106 ug, based on organ weight of the ICRP Reference Man [10 kg bone at 3 ng/g, 5 kg blood at < or = 0.2, 28 kg muscle at 0.5, 15 kg fat at 0.7, 1.8 kg liver at 10, 1.4 kg brain at 0.7, 1 kg lung at 30, 0.3 kidney at 5]. Vanadium, generally considered essential for growth in mammals, is usually low in foodstuffs. The low level in milk, eggs, and some other tissues imply that its requirement for growth is minimal and probably less than previously estimated. In air, from combustion of fossil fuels, and a part from natural dusts derived from soils. food. METALS; VANADIUM; URINE; FECES; HAIR; BONES; TEETH; KIDNEYS; LIVER; BRAIN; THYROID GLANDS; HEART; ADIPOSE TISSUE; MUSCLES; SPLEEN; PANCREAS; LUNGS; BLOOD	Byrne, A.R. Kosta, L. 1978

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Vanadium
7440-62-2
AtW 50.9414, MP 1917 C, BP 3000 C, VP 1 mm Hg at 2290 C, 10 mm Hg at 2570 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1294 Liver	Inhalation Ingestion	NA	2	4.5-7.5 ng/g wet wt	6.0 ng/g wet wt	Total body pool is estimated at 106 ug, based on organ weight of the ICRP Reference Man (10 kg bone at 3 ng/g, 5 kg blood at < or = 0.2, 28 kg muscle at 0.5, 15 kg fat at 0.7, 1.8 kg liver at 10, 1.4 kg brain at 0.7, 1 kg lung at 30, 0.3 kidney at 5). Vanadium, generally considered essential for growth in mammals, is usually low in foodstuffs. The low level in milk, eggs, and some other tissues imply that its requirement for growth is minimal and probably less than previously estimated. In air, from combustion of fossil fuels, and a part from natural dusts derived from soils. Food. METALS; VANADIUM; URINE; FECES; HAIR; BONES; TEETH; KIDNEYS; LIVER; BRAIN; THYROID GLANDS; HEART; ADIPOSE TISSUE; MUSCLES; SPLEEN; PANCREAS; LUNGS; BLOOD	Byrne, A.R. Kosta, L. 1978

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Vanadium
7440-62-2
AtW 50.941a, MP 1917 C, BP 3000 C, VP 1 mm Hg at 2290 C, 10 mm Hg at 2570 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1295 Lung	Inhalation Ingestion	NA	7	19-140 ng/g wet wt	Not given	Total body pool is estimated at 106 ug, based on organ weight of the ICRP Reference Man (70 kg bone at 3 ng/g, 5 kg blood at < or = 0.2, 28 kg muscle at 0.4, 15 kg fat at 0.7, 1.8 kg liver at 10, 1.4 kg brain at 0.7, 1 kg lung at 20, 0.3 kidney at 5). Vanadium, generally considered essential for growth in mammals, is usually low in foodstuffs. The low level in milk, eggs, and some other tissues imply that its requirement for growth is minimal and probably less than previously estimated. In air, from combustion of fossil fuels, and a part from natural dusts derived from soils. food. METALS; VANADIUM; URINE; FECES; HAIR; BONES; TEETH; KIDNEYS; LIVER; BRAIN; THYROID GLANDS; HEART; ADIPOSE TISSUE; MUSCLES; SPLEEN; PANCREAS; LUNGS; BLOOD	Byrne, A.R. Kosta, L. 1978
1296 Lung		AA	98	0.008-1.1 ug/g dry wt	0.083 ug/g dry wt	Mean is geometric. Samples from deceased Cincinnati, OH residents, age range 23-96 years with a median of 66 years, evenly divided between men and women, blacks and whites. Occupations included foundry workers, machinists, farmers, domestics, homemakers, clerical workers. Deaths were from normal causes. METALS; TRACE ELEMENTS; ALUMINUM; CADMIUM; CHROMIUM; COBALT; COPPER; GERMANIUM; IODINE; LEAD; MAGNESIUM; MANGANESE; MOLYBDENUM; SELENIUM; TITANIUM; VANADIUM; ZINC; AUTOPSIES; LUNGS; LYMPH NODES; URBAN AREAS; OHIO	Sweet, D.V. Crouse, W.E. Crable, J.V. 1978

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Vanadium
7440-62-2
AtW 50.9414, MP 1917 C, BP 3600 C, VP 1 mm Hg at 2290 C, 10 mm Hg at 2570 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1297 Lung		ES	26	0.6-11.2 ug/g dry wt	2.9 ug/g dry wt	None detected in 13 of the samples. Tissues from deceased West Virginia bituminous coal miners. METALS; MINERALS; BERYLLIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; NICKEL; TITANIUM; VANADIUM; ZINC; MINING; LUNGS; COAL; SILICA MATERIALS; WEST VIRGINIA; AUTOPSIES	Crable, J.V. Keenan, R.G. Kinser, R.E. Smallwood, R.W. Bauer, P.A. 1968
1298 Lung		AAS	33	0.1-0.33 ug/g wet wt	0.1 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Vanadium
7440-62-2
AtW 50.9414, MP 1917 C, BP 3000 C, VP 1 mm Hg at 2290 C, 10 mm Hg at 2570 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1299 Milk	Inhalation Ingestion	NA	5	0.5-1.2 ng/g dry wt	Not given	Total body pool is estimated at 106 ug, based on organ weight of the ICRP Reference Man (10 kg bone at 3 ng/g, 5 kg blood at < or = 0.2, 28 kg muscle at 0.5, 15 kg fat at 0.7, 1.8 kg liver at 10, 1.4 kg brain at 0.7, 1 kg lung at 30, 0.3 kidney at 5). Vanadium, generally considered essential for growth in mammals, is usually low in foodstuffs. The low level in milk, eggs, and some other tissues imply that its requirement for growth is minimal and probably less than previously estimated. In air, from combustion of fossil fuels, and a part from natural dusts derived from soils food METALS; VANADIUM; URINE; FECES; HAIR; BONES; TEETH; KIDNEYS; LIVER; BRAIN; THYROID GLANDS; HEART; ADIPOSE TISSUE; MUSCLES; SPLEEN; PANCREAS; LUNGS; BLOOD	Byrne, A.R. Kosta, L. 1978

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Vanadium
7440-62-2
Atw 50.9414, MP 1917 C, BP 3000 C, VP 1 mm Hg at 2290 C, 10 mm Hg at 2570 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
Whole Muscle	Inhalation Ingestion	NA	3	0.45-0.62 ng/g wet wt	0.56 ng/g wet wt	Total body pool is estimated at 926 ng, based on organ weight of the ICRP Reference Man [70 kg bone at 3 ng/g, 5 kg blood at < or = 0.2, 28 kg muscle at 0.5, 15 kg fat at 0.7, 1.8 kg liver at 10, 1.4 kg brain at 0.7, 7 kg lung at 10, 0.3 kidney at 5]. Vanadium, generally considered essential for growth in mammals, is usually low in foodstuffs. The low level in milk, eggs, and some other tissues imply that its requirement for growth is minimal and probably less than previously estimated. In air, from combustion of fossil fuels, and a part from natural dusts derived from soils food METALS; VANADIUM; URINE; FECES; HAIR; BONES; TEETH; KIDNEYS; LIVER; BRAIN; THYROID GLANDS; HEART; ADIPOSE TISSUE; MUSCLES; SPLEEN; PANCREAS; LUNGS; BLOOD	Byrne, A.R. Kosta, L. 1978

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Vanadium
7440-62-2
Atw 50.9414, MP 1917 C, BP 3000 C, VP 1 mm Hg at 2290 C, 10 mm Hg at 2570 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1301 Placenta			58	a) Not given b) 0 c) Not given d) 0	a) 0.010 ug/g wet wt b) 0 c) 0.027 ug/g wet wt d) 0	a) All cities b) Augusta, GA c) Birmingham, AL d) Charlotte, NC Metal levels correlated with enzyme activities. Samples from 58 normal placentas collected immediately at delivery in hospitals in Charlotte, NC, Birmingham, AL and Augusta, GA. PLACENTA; MANGANESE; BARIUM; CADMIUM; SELENIUM; MERCURY; TIN; VANADIUM; BERYLLIUM; SILVER; COBALT; NICKEL; CHROMIUM; COPPER; ZINC; LEAD; IRON; PLATINUM; BORON; ARSENIC; LITHIUM; METALS; TRACE ELEMENTS; ENZYMES; GEORGIA; ALABAMA; NORTH CAROLINA	Karp, W.B. Robertson, A.F. 1977

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Vanadium
7440-62-2
AtW 50.9414, MP 1917 C, BP 3000 C, VP 1 mm Hg at 2290 C, 10 mm Hg at 2570 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1302 Teeth	Inhalation Ingestion	NA	4	<2-5.1 ug/g	Not given	Total body pool is estimated at 106 ug, based on organ weight of the ICRP Reference Man [70 kg bone at 3 ug/g, 5 kg blood at < or = 0.2, 28 kg muscle at 0.4, 15 kg fat at 0.7, 1.8 kg liver at 30, 1.4 kg brain at 0.7, 1 kg lung at 30, 0.3 Kidney at 5]. Vanadium, generally considered essential for growth in mammals, is usually low in foodstuffs. The low level in milk, eggs, and some other tissues imply that its requirement for growth is minimal and probably less than previously estimated. In air, from combustion of fossil fuels, and a part from natural dusts derived from soils Food. METALS; VANADIUM; URINE; FECES; HAIR; BONES; TEETH; KIDNEYS; LIVER; BRAIN; THYROID GLANDS; HEART; ADIPOSE TISSUE; MUSCLES; SPLEEN; PANCREAS; LUNGS; BLOOD	Byrne, A.R. Kosta, L. 1978

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Vanadium
7440-62-2
AtW 50.9410, MP 1917 C, BP 3000 C, VP 1 mm Hg at 2290 C, 10 mm Hg at 2570 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1303 Teeth		NS	a) 139 b) 10 c) 33 d) 15 e) 9 f) 8 g) 10 h) 12 i) 20	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 0-036 ppm b) 0.021 ppm c) 0-027 ppm d) 0.027 ppm e) 0.031 ppm f) 0.033 ppm g) 0.038 ppm h) 0.047 ppm i) 0.186 ppm	a) All U.S. samples b) Oregon c) Ohio d) Florida e) New Hampshire f) Montana g) North Carolina h) South Carolina i) New York Levels in buccal enamel from permolars from individuals < 20 yr old. No correlation between V concentration and dental caries. METALS; VANADIUM; TEETH; DENTAL CARIES; UNITED STATES; NORTH CAROLINA; SOUTH CAROLINA; NEW YORK; OREGON; OHIO; FLORIDA; NEW HAMPSHIRE; MONTANA	Curran, M.E.J. Losee, F.L. Brown, E. Taylor, M.E. 1974

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Vanadium
7440-62-2
AtW 50.9414, MP 1917 C, BP 3000 C, VP 1 mm Hg at 2290 C, 10 mm Hg at 2570 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1304 Thyroid gland	Inhalation Ingestion	NA	2	3.0-3.2 ng/g wet wt	3.1 ng/g wet wt	Total body pool is estimated at 106 ug, based on organ weight of the ICRP Reference Man [10 kg bone at 3 ng/g, 5 kg blood at < or = 0.2, 28 kg muscle at 0.5, 15 kg fat at 0.7, 1.8 kg liver at 10, 1.4 kg brain at 0.7, 1 kg lung at 30, 0.3 kidney at 5). Vanadium, generally considered essential for growth in mammals, is usually low in foodstuffs. The low level in milk, eggs, and some other tissues imply that its requirement for growth is minimal and probably less than previously estimated. In air, from combustion of fossil fuels, and a part from natural dusts derived from soils. Food. METALS; VANADIUM; URINE; FECES; HAIR; BONES; TEETH; KIDNEYS; LIVER; BRAIN; THYROID GLANDS; HEART; ADIPOSE TISSUE; MUSCLES; SPLEEN; PANCREAS; LUNGS; BLOOD	Byrne, A.R. Kosta, L. 1978
1305 Urine				Not detectable - 10 ug/l	Not given	Values are approximations. Method of analysis not given. CHROMIUM; TIN; VANADIUM; NICKEL; SILICON; BLOOD; URINE; METALS; MINERAL METABOLISM; TRACE ELEMENTS	Hertz, W. 1974

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Vanadium
7440-62-2
AtW 50.9414, MP 1917 C, BP 3000 C, VP 1 mm Hg at 2290 C, 10 mm Hg at 2570 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1906 Urine	Inhalation Ingestion	NA	7	0.13-<0.3 ng/g	Not given	Total body pool is estimated at 106 ug, based on organ weight of the ICRP Reference Man (70 kg bone at 3 ng/g, 5 kg blood at < or = 0.2, 28 kg muscle at 0.5, 15 kg fat at 0.7, 1.8 kg liver at 10, 1.4 kg brain at 0.7, 1 kg lung at 30, 0.3 kidney at 5). Vanadium, generally considered essential for growth in mammals, is usually low in foodstuffs. The low level in milk, eggs, and some other tissues imply that its requirement for growth is minimal and probably less than previously estimated. In air, from combustion of fossil fuels, and a part from natural dusts derived from soils. Food. METALS; VANADIUM; URINE; FECES; HAIR; BONES; TEETH; KIDNEYS; LIVER; BRAIN; THYROID GLANDS; HEART; ADIPOSE TISSUE; MUSCLES; SPLEEN; PANCREAS; LUNGS; BLOOD	Byrne, A.R. Kosta, L. 1978

Zinc
7440-66-6
Zn, mp 65.38, bp 419.5 C, bp 908 C, vp 1 mm Hg at 487 C, 10 mm Hg at 598 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1307 Adipose		AAS	3	1.6-3.7 ug/g wet wt	2.7 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
1308 Adrenal gland		AAS	1	Not applicable	18 ppm wet wt	74-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES; BONES; HEART; JAPAN; BLOOD SERUM	Nogawa, K. Ishizaki, A. Fukushima, M. 1975

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Zinc
7440-66-6
Zn, AW 65.38, MP 419.5 C, BP 908 C, VP 1 mm Hg at 487 C, 10 mm Hg at 590 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1309 Adrenal gland		AAS	9	15-43 ug/g wet wt	28 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
1310 Aorta		AAS	1	Not applicable	19 ppm wet wt	74-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES; BONES; HEART; JAPAN; BLOOD SERUM	Nogawa, K. Ishizaki, A. Fukushima, M. 1975

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1311 Blood		AAS	502	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 79.0 ug/100 ml b) 32.0 ug/100 ml c) 86.0 ug/100 ml d) 41.0 ug/100 ml e) 82.0 ug/100 ml f) 36.0 ug/100 ml	a) Maternal, term pregnancy b) Fetal, term pregnancy c) Maternal, term with premature membrane rupture d) Fetal, term with premature membrane rupture e) Maternal, pre-term f) Fetal, pre-term Subjects live in lead belt area. No significant differences between zinc in maternal and fetal blood of either region. Samples from 249 pregnant women in Region I with no lead mining activity and 253 in Region II 30-50 mi west of the new lead belt area. Patients were 20-25 years of age, had resided in their respective regions for at least 10 years and had incomes of $7000-10,000 a year. Increased incidence of early membrane rupture during pregnancy LEAD; METALS; BLOOD; FETUS; PREGNANCY; ABORTION; MINING; POPULATION EXPOSURE; MISSOURI; BLOOD SERUM; UMBILICAL CORD; PLACENTA	Fahim, M.S. Fahim, Z. Hall, D.G. 1976

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1312 Blood		AAS	4	a) Not given b) Not given c) Not given	a) 84 ug/100 ml b) 74 ug/100 ml c) 116 ug/100 ml	a) Sampled at ninth month b) Sampled at delivery c) Sampled at six weeks postpartum Values represent pooled plasma of the 4 subjects. Zinc losses may be underestimated because of failure to measure amounts lost as hair, nails and as fecal waste on toilet tissues. Samples from four teenagers in 3rd trimester of pregnancy ZINC; METALS; TRACE ELEMENTS; ADOLESCENTS; PREGNANCY; MINERAL METABOLISM; DIETS; FECES; BLOOD; SKIN; URINE; PROTEINS	Shraer, K.K. Calloway, D.H. 1976
1313 Blood	Ingestion Inhalation	APDC-MIBK AAS	282	150-1730 ug/100 ml	520 ug/100 ml	Children in Newark, NJ, 1-8 yr, living in urban environment. CADMIUM; LEAD; ZINC; METALS; BLOOD; CHILDREN; PAINTS; POPULATION EXPOSURE; URBAN AREAS; NEW JERSEY	Bogden, J.D. Singh, N.P. Joselow, M.M. 1974
1314 Blood		AAS	24	7.8-16 ug/g wet wt	12 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1315 Blood	Ingestion	AAS	a) 7 b) 7 c) 7 d) 7	a) Not given b) Not given c) Not given d) Not given	a) 28 umoles/l b) 110.1 umoles/l c) 93.6 umoles/l d) 19.1 umoles/l	a) Peak plasma level, healthy adults given 2.07 mmoles Zn during 12 wk b) Peak whole blood level, at start of Zn intake, healthy adults given 0.69 mmoles Zn per day c) Whole blood level after 12 wk of Zn intake, healthy adults given 0.69 mmoles Zn per day d) Peak plasma level, after 12 wk of Zn intake, healthy adults given 0.69 mmoles Zn per day. ZINC; COPPER; METALS; TRACE ELEMENTS; BLOOD; BLOOD PLASMA	Abdulla, M. 1979
1316 Blood, cells		AAS	10	Not given	2.8 ug/g	Menstrual Ten women, 18-26 years old. Five had used oral contraceptives (mestranol and norethindrone) for at least 6 months prior to the investigation. Five were controls. ORAL CONTRACEPTIVES; ZINC; BLOOD; BLOOD SERUM; URINE; FECES; MENSTRUATION; DIETS; COPPER; IRON; INTEGUMENT; METALS	Hess, F.M. Fing, J.C. Margen, S. 1977

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1317 Blood, plasma		ES	74, 42 Controls	a) Not given b) Not given	a) 74.6 ug/100 ml b) 84.2 ug/100 ml	a) Study group b) Controls Preschool children living in the west side of Denver: 55 Mexican-Americans, 14 Anglos, 3 Blacks, one Oriental, and one American Indian, all with low growth percentiles Controls from middle-income families Children on or below the 3rd percentile of the Iowa growth grids: height, 73.0% weight, 37.1% head circumference 2.67% ZINC; HAIR; BLOOD PLASMA; CHILDREN; DIETS; NUTRITIONAL DEFICIENCIES; METALS; TRACE ELEMENTS; COLORADO	Hambidge, K.M. Walravens, P.A. Brown, R.M. Webster, J. White, S. Anthony, M. Roth, M.L. 1976
1318 Blood, plasma		ES	20	a) Not given b) Not given c) Not given d) Not given	a) 68.2 ug/100 ml b) 56.0 ug/100 ml c) 85.7 ug/100 ml d) 89.5 ug/100 ml	a) At 16 weeks gestation b) At 38 weeks gestation c) Male controls d) Females taking oral contraceptives Other data available. Samples from 20 pregnant women at University of Colorado Medical Center. Subjects were Caucasians, middle or upper socioeconomic level, mean age of 22 yrs. Subjects were chosen on basis of good health and nutrition. No evidence of impaired glucose tolerance. No infants with congenital malformations. ZINC; COPPER; CHROMIUM; MANGANESE; IRON; METALS; MINERALS; PREGNANCY; MINERAL METABOLISM; BLOOD PLASMA; HAIR; TRACE ELEMENTS; COLORADO	Hambidge, K.M. Droegemueller, W. 1974

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1319 Blood, serum		AAS	a) 19 b) 25	a) Not given b) Not given	a) 125 ug/100 ml b) 102 ug/100 ml	a) Persons with histories of sarcomas b) Controls Significantly lower levels in normal females than in normal males. Samples from 19 sarcoma patients, 12 with osteosarcomas at various stages and controls representing the normal population in the San Francisco Bay region. Ages in the study group ranged from 9 to 67 years. COPPER; ZINC; BLOOD; SARCOMAS; OSTEOSARCOMAS; METALS; BLOOD SERUM	Fisher, G.L. Byers, V.S. Shifrine, M. Levin, A.S. 1976
1320 Blood, serum		AAS		Not given	1.16 ug/ml	10 aliquots of sample measured. ZINC; METALS; BLOOD SERUM; METALLOPROTEINS; LIVER; MEASUREMENT METHODS; COPPER; CADMIUM	Valchuk, K.H. Evenson, M. Vallee, B.L. 1974
1321 Blood, serum	Ingestion Inhalation	AAS	19, 25 Controls	a) Not given b) Not given c) Not given	a) 125 ug/100 ml b) 132 ug/100 ml c) 132 ug/100 ml	a) Sarcoma patients b) Sarcoma patients, amputated (clinically tumor-free) c) Normal controls Samples from 19 sarcoma patients (18 with bone involvement). Twelve of the bone tumors were osteosarcomas. Three were giant-cell sarcoma of bone. BLOOD SERUM; COPPER; ZINC; ENZYMES; NEOPLASMS; OSTEOSARCOMAS; SARCOMAS; METALS; CALIFORNIA	Fisher, G.L. Shifrine, M. 1977

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1322 Blood, serum		AAS	27	a) Not given b) Not given c) Not given d) Not given	a) 182 ug/100 ml b) 165 ug/100 ml c) 186 ug/100 ml d) 149 ug/100 ml	a) Male b) Female c) Nonpregnant women d) Women taking oral contraceptives Volunteers were 11 male and 16 female residents of Tucson, AZ, ages from 16-84 years. HAIR; IRON; MAGNESIUM; COPPER; ZINC; BLOOD SERUM; ORAL CONTRACEPTIVES; DIETS; TRACE ELEMENTS; AGE; METALS; ARIZONA	Deeming, S.B. Weber, C.W. 1978
1323 Blood, serum		NA	a) 16 b) 46	a) Not given b) Not given	a) 0.81 mg/l b) 0.98 mg/l	a) Patients with acute myocardial infarction b) Controls 62 persons in Belgium: 45 hospital patients (29 free of obvious medical disease, 16 with acute myocardial infarction), and 17 receiving employment physicals MANGANESE; COPPER; ZINC; HEART DISEASES; BELGIUM; METALS; BLOOD SERUM	Versieck, J. Barbier, F. Speecke, A. Hoste, J. 1975
1324 Blood, serum		CC AAS	a) 150 b) 125	a) Not given b) Not given	a) 96 ppm b) 77 ppm	a) Normal subjects b) Patients with hypogeusia Diagnosed hypogeusia in study group. Controls had normal taste activity. ZINC; PAROTID GLAND; PROTEINS; SALIVA; BLOOD SERUM; AMINO ACIDS; NUTRITIONAL DISORDERS; TASTE BUD DISEASES; METALS	Henkin, R.I. Lippoldt, R.E. Bilstad, J. Edelhoch, H. 1975

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1325 Blood, serum		AAS	6	a) Not given b) Not given c) Not given	a) 78 ug/100 ml b) 48 ug/100 ml c) 90 ug/100 ml	a) Prior to histidine administration b) During histidine administration c) 24 hr following Zn therapy Samples from patients, 37 to 56 years of age, hospitalized at the National Institutes of Health, Bethesda, MD. Patients were diagnosed with progressive systemic sclerosis. Each patient developed anorexia, dysfunction of taste and smell, mental changes, and cerebellar dysfunction after administration of histidine. ZINC; METALS; TRACE ELEMENTS; MINERAL METABOLISM; NUTRITIONAL DISORDERS; HISTIDINES; BLOOD SERUM; MARYLAND; URINE	Henkin, R.I. Patten, B.M. Re, P.K. Bronzert, D.A. 1975
1326 Blood, serum		AAS	a) 5 b) 5 c) 5 d) 5	a) 75.8-104.0 ug/dl b) 32.8-62.8 ug/dl c) 60.0-98.9 ug/dl d) 70.8-87.2 ug/dl	a) 84.5 ug/dl b) 48.9 ug/dl c) 80.8 ug/dl d) 63.5 ug/dl	a) Oral contraceptives-day 8 b) Oral contraceptives-day 36 c) Controls-day 8 d) Controls-day 36 Ten women, 18-26 years old. Five had used oral contraceptives [mestranol and norethindrone] for at least 6 months prior to the investigation. Five were controls. ORAL CONTRACEPTIVES; ZINC; BLOOD; BLOOD SERUM; URINE; FECES; MENSTRUATION; DIETS; COPPER; IRON; INTOXICANT; METALS	Hess, F.M. King, J.C. Margen, S. 1977

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1327 Blood, serum		AAS	7	a) 68-146 ug/100 ml b) 105-190 ug/100 ml c) 105-120 ug/100 ml	a) Not given b) Not given c) Not given	a) During chelation with EDTA b) Without chelation c) During zinc sulfate therapy b) and c) estimated from graph. A 33-year old man who had worked for 5 months in a lead battery factory and 25 years previously as a spray painter using lead-based paints. Vague pains in extremities, easily fatigued, generalized weakness, headache, loss of appetite. Mild neuropathy and myopathy LEAD; METALS; ZINC; CASE HISTORIES; OCCUPATIONAL HAZARDS; INDUSTRIAL PLANTS; PAINTS; LEVULINIC ACIDS; ENZYMES; BLOOD; BLOOD SERUM; URINE; HAIR	Thomasino, J.A. Zurovente, E. Brooks, S.M. Petering, H.G. Lerner, S.I. Pinelli, V.M. 1977
1328 Blood, serum		AAS	a) 15 b) 20 c) 6 d) 9	a) Not given b) Not given c) Not given d) Not given	a) 15.8 umol/l b) 12.0 umol/l c) 17.6 umol/l d) 14.8 umol/l	a) Normal subjects b) Patients with esophageal cancer c) Patients with other cancers d) Patients with non-neoplastic disorders. Chinese men, aged 45 to 75 yrs. ZINC; COPPER; TRACE ELEMENTS; METALS; BLOOD; BLOOD SERUM; HAIR; ESOPHAGUS; NEOPLASMS; CHINA	Lin, H.J. Chan, W.C. Fong, Y.Y. Newberne, P.M. 1977

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Zinc
7440-66-6
Zn, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1329 Blood, whole		AAS	1944	82-10048 ug/dl	1481.9 ug/dl	Absorption from storage tubes may explain skewness of Zn distribution. No complete trace metal exposure data for stated areas of residence. Military recruits from Chicago, Illinois and adjacent areas in Illinois and Indiana inducted between June 29 and July 10, 1969 BLOOD; CADMIUM; COPPER; LEAD; ZINC; METALS; AGE; SMOKING; TOBACCOS; DIETS; ILLINOIS; INDIANA; RACIAL STUDIES	Creason, J.P. Hamner, D.I. Colucci, A.V. Priester, L. Davis, J. 1976
1330 Blood, whole		AAS	a) 5 b) 5 c) 4 d) 5	a) 493-608 ug/dl b) 404-532 ug/dl c) 499-610 ug/dl d) 480-556 ug/dl	a) 539 ug/dl b) 476 ug/dl c) 551 ug/dl d) 515 ug/dl	a) Oral contraceptive-days 8-10 b) Oral contraceptive-days 32-34 c) Controls-days 8-10 d) Controls-days 32-34 Ten women, 18-26 years old. Five had used oral contraceptives (mestranol and norethindrone) for at least 6 months prior to the investigation. Five were controls. Data available for serum. ORAL CONTRACEPTIVES; ZINC; BLOOD; BLOOD SERUM; URINE; FECES; MENSTRUATION; DIETS; COPPER; IRON; INTEGUMENT; METALS	Hess, F.M. King, J.C. Margen, S. 1977
1331 Blood, whole		AAS	12	0.09-1.36 mg	0.48 mg	Values are for menstrual blood per menstrual period. 12 adolescent girls, mean age 13.6 yr. ZINC; MAGNESIUM; COPPER; IRON; ADOLESCENTS; MENSTRUATION; METALS; TRACE ELEMENTS	Greger, J.L. Buckley, S. 1977

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1332 Blood, whole			37	39-112 umol/l	83 umol/l	Residents near zinc mine. Residents of Shipham, Somerset, where soil Cd was high. 14 females, aged 28 to 83 yr, 17 males, aged 15 to 79 yr. CADMIUM; ZINC; LEAD; METALS; MINING; BLOOD; UNITED KINGDOM; METAL POISONING; FOOD CONTAMINATION	Carruthers, M. Smith, B. 1979
1333 Bone		AAS	1	a) Not applicable b) Not applicable	a) 41 ppm wet wt b) 59 ppm wet wt	a) Spinous process b) Rib 74-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES; BONES; HEART; JAPAN; BLOOD SERUM	Nogawa, K. Ishizaki, A. Fukushima, M. 1975

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Zinc
7440-66-6
Zn, AtN 65.38, M2 419.5 C, D2 908 C, V2 1 mm Hg at 487 C, 10 mm Hg at 590 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1334 Brain		AAS	1	Not applicable	16 ppm wet wt	74-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES; BONES; HEART; JAPAN; BLOOD SERUM	Nogawa, K. Ishizaki, A. Fukushima, M. 1975
1335 Brain		AAS	a) 14 b) 14	a) 10-22 ig/g wet wt b) 12-20 ug/g wet wt	a) 16 ug/g wet wt b) 15 ug/g wet wt	a) Cerebrum b) Cerebellum Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1336 Diaphragm		AAS	1	Not applicable	41 ppm wet wt	74-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES; BONES; HEART; JAPAN; BLOOD SERUM	Nogawa, K. Ishizaki, A. Fukushima, M. 1975
1337 Esophagus		AAS	1	Not applicable	44 ppm wet wt	74-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES; BONES; HEART; JAPAN; BLOOD SERUM	Nogawa, K. Ishizaki, A. Fukushima, M. 1975

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1338 Esophagus		AAS	a) 9 b) 9 c) 4	a) 114-204 ug/g dry wt b) 72-166 ug/g dry wt c) 150-197 ug/g dry wt	a) 160 ug/g dry wt b) 111 ug/g dry wt c) Not given	a) Esophageal tumors b) Tumor-free esophageal tissue from same individuals c) Esophagus from patients with other cancers Chinese men, aged 45 to 75 yrs. ZINC; COPPER; TRACE ELEMENTS; METALS; BLOOD; BLOOD SERUM; HAIR; ESOPHAGUS; NEOPLASMS; CHINA	Lin, H.J. Chan, W.C. Fong, Y.Y. Newberne, P.M. 1977
1339 Hair		MS	74, 42 Controls	a) Not given b) Not given	a) 87.0 ug/g b) 130.7 ug/g	a) Study group b) Controls (data from earlier study) Preschool children living in the west side of Denver: 55 Mexican-Americans, 10 Anglos, 3 Blacks, 1 Oriental, and 1 American Indian, all with low growth percentiles controls from middle-income families. Children on or below the 3rd percentile of the Iowa growth grids: height, 73.0% weight, 31.1% head circumference 2.62%. ZINC; HAIR; BLOOD PLASMA; CHILDREN; DIETS; NUTRITIONAL DEFICIENCIES; METALS; TRACE ELEMENTS; COLORADO	Hambidge, K.M. Walravens, P.A. Brown, R.M. Webster, J. White, S. Anthony, M. Roth, M.I. 1976

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Zinc
7440-66-6
Zn, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1340 Hair		AAS	27	a) Not given b) Not given c) Not given d) Not given	a) 176 ppm b) 208 ppm c) 199 ppm d) 233 ppm	a) Male b) Female c) Nonpregnant women d) Women taking oral contraceptives Hair zinc levels for both sexes declined after 40 years of age Volunteers were 11 male and 16 female residents of Tucson, Az, ages from 16-84 years. HAIR; IRON; MAGNESIUM; COPPER; ZINC; BLOOD SERUM; ORAL CONTRACEPTIVES; DIETS; TRACE ELEMENTS; AGE; METALS; ARIZONA	Deeming, S.B. Weber, C.W. 1978
1341 Hair		AAS	42	Not given	178 ug/g	Pubic hair used because of less strenuous treatment prior to study. Levels in sample with permanent wave treatment were increased three-fold over untreated values. Samples from healthy, pregnant women in Missouri were collected prior to delivery. ZINC; HAIR; MINERAL METABOLISM; METALS; BIOACCUMULATION; MAGNESIUM; COPPER; CALCIUM; MISSOURI	Hilderbrand, D.C. White, D.H. 1974
1342 Hair		AAS	10	6.4-87.0 ug/g	Not given	Average of 58% Zn extracted with 1% nitric acid. Specimens from donors aged 12 to 60 yr and from various geographic exposure areas. SODIUM; MAGNESIUM; POTASSIUM; CALCIUM; MANGANESE; ZINC; NICKEL; COPPER; IRON; CADMIUM; LEAD; HAIR; NUTRITIONAL DEFICIENCIES; BIOACCUMULATION; MINERAL METABOLISM; METALS; TRACE ELEMENTS	Hinners, T.A. Terrill, W.J. Kent, J.L. Colucci, A.V. 1974

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Zinc
7440-66-6
Zn, [illegible], MP 419.5 C, BP 908 C, 22.1 mm Hg at 487 C, 10 mm Hg at 530 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1303 Hair		AAS	133	a) 165-342 ppm b) 97-299 ppm c) 108-493 ppm d) 115-665 ppm e) Not given f) Not given	a) 220 ppm b) 203 ppm c) 244 ppm d) 276 ppm e) 135 ppm f) 136 ppm	a) Young women (Bushman) b) Lactating women (Bushman) c) Postmenopausal women (Bushman) d) Men (Bushman) e) Bantu women, lactating f) Cincinnati women, nonlactating Kung Bushmen inhabiting the northwestern region of the Kalahari desert in Botswana. Compared with Bantu population from Baragwanath Hospital, Johannesburg, Republic of South Africa, and inner-city mothers from Cincinnati. HAIR; IRON; TRACE ELEMENTS; ZINC; DIETS; COPPER; PREGNANCY; BLOOD SERUM; LACTATION; OHIO; SOUTH AFRICA	Baumslag, N. Petering, H.G. 1976
1304 Hair				a) 75-132 ug/g b) 80-197 ug/g c) 95-180 ug/g d) 81-135 ug/g e) 97-168 ug/g f) 121-149 ug/g	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	Range of means by province from: a) Females, 0-10 yr b) Females, 11-20 yr c) Females, over 20 yr d) Males, 0-10 yr e) Males, 11-20 yr f) Males over 20 yr Information from females represents a longer period of time due to longer length of hair. Samples from males and non-lactating females in several provinces of the Republic of Panama. ZINC; METALS; TRACE ELEMENTS; PANAMA; AGE; HAIR	Klevay, L.M. 1974

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Zinc
7440-66-6
Zn, AW 65.38, MP 419.5 C, BP 908 C, VP 1 mm Hg at 487 C, 10 mm Hg at 530 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1985 Hair		ES	20	a) Not given b) Not given	a) Approx 175 ug/g dry wt b) Approx 160 ug/g dry wt	a) At 16 wk gestation b) At 38 wk gestation Values estimated from graph. Samples from 20 pregnant women at University of Colorado Medical Center. Subjects were Caucasians, middle or upper socioeconomic level, mean age of 22 yrs. Subjects were chosen on basis of good health and nutrition. No evidence of impaired glucose tolerance. No infants with congenital malformations. ZINC; COPPER; CHROMIUM; MANGANESE; IRON; METALS; MINERALS; PREGNANCY; MINERAL METABOLISM; BLOOD PLASMA; HAIR; TRACE ELEMENTS; COLORADO	Hambidge, K.M. Droegemueller, W. 1974
1986 Hair		AAS	1	Not applicable	211.7 ppm	A 37-year old man who had worked for 5 months in a lead battery factory and 25 years previously as a spray painter using lead-based paints. Vague pains in extremities, easily fatigued, generalized weakness, headache, loss of appetite. Mild neuropathy and myopathy LEAD; METALS; ZINC; CASE HISTORIES; OCCUPATIONAL HAZARDS; INDUSTRIAL PLANTS; PAINTS; LEVULINIC ACIDS; ENZYMES; BLOOD; BLOOD SERUM; URINE; HAIR	Thomasino, J.A. Zurowente, E. Brooks, S.M. Petering, H.G. Lerner, S.I. Finelli, V.N. 1977

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1367 Hair		Colorimetry		a) Not given b) Not given	a) 687 ug/g dry wt b) 641 ug/g dry wt	a) Men's melanosomes b) Women's melanosomes Melanosomes from naturally dark hairs HAIR; PIGMENTS; ZINC; METALS; BIOACCUMULATION	Borovansky, J. Horcicko, J. Duchon, J. 1976
1368 Hair		AAS	a) 50 b) 57 c) 83	a) Not given b) Not given c) Not given	a) 136 ug/g b) 151 ug/g c) 225 ug/g	a) Maternal scalp hair b) Maternal pubic hair c) Neonatal scalp hair Zn increased in mothers as parity increased. Hair samples from patients at Cincinnati General Hospital, 68% black, 32% white. Mean age was 22.5 yr. Mean parity of the group was 2.6. HAIR; TRACE ELEMENTS; NEWBORN; METALS; ZINC; COPPER; IRON; LEAD; PLACENTA	Baumslag, N. Yeager, D. Levin, L. Petering, H.G. 1974
1369 Hair		AAS	a) 16 b) 19 c) 4 d) 8	a) Not given b) Not given c) Not given d) Not given	a) 195.0 ug/g b) 162.0 ug/g c) 169.0 ug/g d) 212.0 ug/g	a) Normal subjects b) Patients with esophageal cancer c) Patients with other cancers d) Patients with non-neoplastic disorders Chinese men, aged 45 to 75 yrs. ZINC; COPPER; TRACE ELEMENTS; METALS; BLOOD; BLOOD SERUM; HAIR; ESOPHAGUS; NEOPLASMS; CHINA	Lin, H.J. Chan, W.C. Fong, Y.Y. Newberne, P.M. 1977

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1350 Hair		AAS	a) 21 b) 20	a) 113-199 ppm b) 127 - 238 ppm	a) 149 ppm b) 178.65 ppm	a) Rural Irish children, close to zinc and copper mine b) Urban Irish children, controls 21 children (18 male, 3 female, aged 5-12 yr) whose school was close to an open-cast mine in County Tipperary, and 20 Cork City children (18 male, 2 female, same age group). ZINC; MERCURY; ARSENIC; LEAD; COPPER; METALS; CHILDREN; HAIR; UNITED KINGDOM; INDUSTRIAL POLLUTION	Corridan, J.P. 1974
1351 Heart		AAS	22	11-37 ug/g wet wt	25 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Zn, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1352 Intestine		AAS	1	a) Not applicable b) Not applicable	a) 19 ppm wet wt b) 21 ppm wet wt	a) Small b) Large 74-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Defomities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES; BONES; HEART; JAPAN; BLOOD SERUM	Nogawa, K. Ishizaki, A. Fukushima, M. 1975
1353 Intestine		AAS	a) 26 b) 26	a) 17-37 ug/g wet wt b) 11-33 ug/g wet wt	24 ug/g wet wt 23 ug/g wet wt	a) Small intestine b) Large intestine Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1258 Kidney		CC AAS	a) 18 b) 5 c) 21 d) 18 e) 5 f) 21	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 289 ug/g dry wt b) 296 ug/g dry wt c) 237 ug/g dry wt d) 221 ug/g dry wt e) 275 ug/g dry wt f) 165 ug/g dry wt	a) Low metallothionein in cortex b) High metallothionein in cortex c) Reference group - no metallothionein in cortex d) Low metallothionein in medulla e) High metallothionein in medulla f) Reference group - no metallothionein in medulla Autopsy specimens (random sample) of patients in Norway with an age range of 43-97. The absence of metallothionein combined with a low body burden of cadmium seemed to be associated with longevity. Approximately half of the group had died of cardiovascular disease. In group b) 4 or 5 were smokers and eventually died from cardiovascular disease. CADMIUM; METALS; KIDNEYS; LIVER; POPULATION EXPOSURE; METALLOPROTEINS; ZINC; SMOKING; CARDIOVASCULAR DISEASES; NORWAY	Syversen, T.L.M. 1975

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Zinc
7440-66-6
Zn, mp 419.5 C, bp 908 C, VP 1 mm Hg at 487 C, 10 mm Hg at 730 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1355 Kidney	Ingestion Inhalation	AAS	a) 7 b) 21 c) 40 d) 38 e) 25 f) 9	a) Not given b) Not given c) Not given d) Not given e) Not given f) 21-73 ug/g wet wt	a) 25 ug/g wet wt b) 33 ug/g wet wt c) 40 ug/g wet wt d) 35 ug/g wet wt e) 26 ug/g wet wt f) Not given	a) Low-Cd exposed 0-10 yr age group b) Low-Cd exposed 21-30 yr age group c) Low-Cd exposed 41-50 yr age group d) Low-Cd exposed 61-70 yr age group e) Low-Cd exposed 81-90 yr age group f) High Cd exposed 59-77 yr age group More data in table Values are for renal cortex. 288 kidney cortex samples, 289 liver samples, and 285 pancreas samples from 292 autopsies performed in Stockholm, Sweden. The Stockholm area is a low-Cd exposure area so additional liver and kidney cortex samples were obtained from autopsies on 6 men and 3 women who had lived near or worked in Cd-emitting plants. ZINC; CADMIUM; BIOACCUMULATION; SWEDEN; COMPARATIVE EVALUATIONS; LIVER; KIDNEYS; PANCREAS; METALS	Elinder, C-G. Piscator, M. Linman, L. 1977
1356 Kidney		AAS	1	a) Not Applicable b) Not Applicable	a) 48 ppm wet wt b) 34 ppm wet wt	a) Renal cortex b) Renal medulla 74-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES; TEETH; HEART; JAPAN; BLOOD SERUM	Nogawa, K. Ishizaki, A. Fukushima, M. 1975

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Zinc
7440-66-6
Zn, AW 65.38, MP 419.5 C, BP 907 C, VP 1 mm Hg at 487 C, 10 mm Hg at 594 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1357 Kidney		AAS	33	a) 152-15,110 ug/g dry wt b) 86-297 ug/g dry wt	a) 2017 ug/g dry wt b) 188 ug/g dry wt	a) Samples from Uppsala University b) Samples from Lund University Values are for renal cortex. The high amount of zinc in the storage liquids makes the validity of the measured concentrations of it doubtful. 33 19th century kidneys preserved at Uppsala and Lund Universities. CADMIUM; COPPER; ZINC; METALS; TRACE ELEMENTS; KIDNEYS; POPULATION EXPOSURE; SWEDEN	Elinder, C-G. Kjellstrom, T. 1977
1358 Kidney		AAS	29	27-95 ug/g wet wt	55 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
1359 Liver		AAS		Not given	60,000 ug/g	Value is for metallothioneins. ZINC; METALS; BLOOD SERUM; METALLOPROTEINS; LIVER; MEASUREMENT METHODS; COPPER; CADMIUM	Falchuk, K.H. Evenson, M. Vallee, B.L. 1974

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Zn, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1360 Liver		CC AAS	a) 14 b) 5 c) 21	a) Not given b) Not given c) Not given	a) 287 ug/g dry wt b) 786 ug/g dry wt c) 298 ug/g dry wt	a) Low metallothionein in sample b) High metallothionein in sample c) Reference group - no metallothionein in sample Autopsy specimens (random sample) of patients in Norway with an age range of 40-91. The absence of metallothionein combined with a low body burden of cadmium seemed to be associated with longevity. Approximately half of the group had died of cardiovascular disease. In group b) 4 or 5 were smokers and eventually died from cardiovascular disease. CADMIUM; METALS; KIDNEYS; LIVER; POPULATION EXPOSURE; METALLOPROTEINS; ZINC; SMOKING; CARDIOVASCULAR DISEASES; NORWAY	Syversen, T.L.M. 1975
1361 Liver	Ingestion Inhalation	AAS	a) 7 b) 21 c) 40 d) 38 e) 25 f) 9	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 42 ug/g wet wt b) 46 ug/g wet wt c) 43 ug/g wet wt d) 43 ug/g wet wt e) 43 ug/g wet wt f) 68.3 ug/g wet wt	a) Low-Cd exposed 0-10 yr age group b) Low-Cd exposed 21-30 yr age group c) Low-Cd exposed 41-50 yr age group d) Low-Cd exposed 61-70 yr age group e) Low-Cd exposed 81-90 yr age group More data in table. 288 kidney cortex samples, 289 liver samples, and 285 pancreas samples from 292 autopsies performed in Stockholm, Sweden. The Stockholm area is a low-Cd exposure area so additional liver and kidney cortex samples were obtained from autopsies on 6 men and 3 women who had lived near or worked in Cd-emitting plants. ZINC; CADMIUM; BIOACCUMULATION; SWEDEN; COMPARATIVE EVALUATIONS; LIVER; KIDNEYS; PANCREAS; METALS	Elinder, C-G. Piscator, M. Linman, L. 1977

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Zinc
7440-66-6
Zn, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1362 Liver		AAS	1	Not applicable	116 ppm wet wt	74-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES	Nogawa, K. Ishizaki, A. Fukushima, M. 1975
1363 Liver		AAS	29	21-82 ug/g wet wt	56 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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Zinc
7440-66-6
Zn, [illegible], MP 419.5 C, BP 908 C, VP 1 mm Hg at 487 C, 10 mm Hg at 594 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1364 Liver		ES	10	Not given	4920 ug/g	Arithmetric mean Geometric mean=4570 ug/g Concentrations based on ash weight Samples from ten healthy adult males who were accident victims. METALS; SILVER; ALUMINUM; BARIUM; CADMIUM; COBALT; CHROMIUM; COPPER; IRON; MANGANESE; MOLYBDENUM; NICKEL; LEAD; TIN; STRONTIUM; TITANIUM; ZINC; LIVER	Perry, H.M., Jr. Perry, E.F. Hixon, B.B. 1977
1365 Lung		AAS	1	Not applicable	16 ppm wet wt	74-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES; BONES; HEART; JAPAN; BLOOD SERUM	Nogawa, K. Ishizaki, A. Fukushima, M. 1975

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Zinc
7440-66-6
Zn, MW 65.39, MP 419.5 C, BP 908 C, VP 1 mm Hg at 487 C, 10 mm Hg at 590 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1966 Lung		MS	98	22.0-780 ug/g dry wt	98.4 ug/g dry wt	Mean is geometric. Samples from deceased Cincinnati, OH residents, age range 23-96 years with a median of 66 years, evenly divided between men and women, blacks and whites. Occupations included foundry workers, machinists, farmers, domestics, homemakers, clerical workers. Deaths were from normal causes. METALS; TRACE ELEMENTS; ALUMINUM; CADMIUM; CHROMIUM; COBALT; COPPER; GERMANIUM; IODINE; LEAD; MAGNESIUM; MANGANESE; MOLYBDENUM; SELENIUM; TITANIUM; VANADIUM; ZINC; AUTOPSIES; LUNGS; LYMPH NODES; URBAN AREAS; OHIO	Sweet, D.V. Crouse, W.E. Crable, J.V. 1978
1967 Lung		AAS	26	85.3-820 ug/g dry wt	130 ug/g dry wt	None detected in 13 of the samples. Tissues from deceased West Virginia bituminous coal mines. METALS; MINERALS; BERYLLIUM; COBALT; COPPER; IRON; LEAD; MAGNESIUM; MANGANESE; NICKEL; TITANIUM; VANADIUM; ZINC; MINING; LUNGS; COAL; SILICA MATERIALS; WEST VIRGINIA; AUTOPSIES	Crable, J.V. Keenan, R.G. Kinser, R.E. Smallwood, A.W. Mauer, P.A. 1968

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Zinc
7440-66-6
Zn, [illegible] 65.38, MP 419.5 C, BP 908 C, VP 1 mm Hg at 487 C, 10 mm Hg at 590 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1368 Lung		AAS	28	8.9-25 ug/g wet wt	16 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
1369 Lymph node		MS	98	2.0-570 ug/g dry wt	103 ug/g dry wt	Mean is geometric. Samples from deceased Cincinnati, OH residents, age range 23-96 years with a median of 66 years, evenly divided between men and women, blacks and whites. Occupations included foundry workers, machinists, farmers, domestics, homemakers, clerical workers. Deaths were from normal causes. METALS; TRACE ELEMENTS; ALUMINUM; CADMIUM; CHROMIUM; COBALT; COPPER; GERMANIUM; IODINE; LEAD; MAGNESIUM; MANGANESE; MOLYBDENUM; SELENIUM; TITANIUM; VANADIUM; ZINC; AUTOPSIES; LUNGS; LYMPH NODES; URBAN AREAS; OHIO	Sweet, D.V. Crouse, W.E. Crable, J.V. 1978

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Zinc
7440-66-6
Zn, AW 65.38, MP 419.5 C, BP 908 C, VP 1 mm Hg at 487 C, 10 mm Hg at 590 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1370 Milk		AAS	50	0.14-3.95 ug/ml	1.62 ug/ml	Since most observed variances were accounted for by variations among mothers, a representative estimate could probably be obtained from analysis of one sample. Samples from Pennsylvania mothers. 42 subjects were between the ages of 20 and 30, while 8 were over 30. All subjects had healthy, full-term infants. COPPER; IRON; ZINC; METALS; MINERALS; METABOLISM; LACTATION; DIETS; MILK; NEWBORN; PENNSYLVANIA	Picciano, M.F. Guthrie, H.A. 1976
1371 Muscle		AAS	1	a) Not applicable b) Not applicable	a) 50 ppm wet wt b) 29 ppm wet wt	a) Skeletal b) Cardiac 74-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES; BONES; HEART; JAPAN; BLOOD SERUM	Nogawa, K. Ishizaki, A. Fukushima, H. 1975

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Zinc
7440-66-6
Zn, [illegible]

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1372 Muscle		AAS	10	47-72 ug/g wet wt	60 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
1373 Ovary		AAS	6	7.0-26 ug/g wet wt	16 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1374 Pancreas	Ingestion Inhalation	AAS	a) 7 b) 21 c) 40 d) 38 e) 25	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 32 ug/g wet wt b) 29 ug/g wet wt c) 27 ug/g wet wt d) 26 ug/g wet wt e) 23 ug/g wet wt	a) Low-Cd exposed 0-10 yr age group b) Low-Cd exposed 21-30 yr age group c) Low-Cd exposed 41-50 yr age group d) Low-Cd exposed 61-70 yr age group e) Low-Cd exposed 81-90 yr age group More data in table. 288 kidney cortex samples, 289 liver samples, and 285 pancreas samples from 292 autopsies performed in Stockholm, Sweden. The Stockholm area is a low-Cd exposure area so additional liver and kidney cortex samples were obtained from autopsies on 6 men and 3 women who had lived near or worked in Cd-emitting plants. ZINC; CADMIUM; BIOACCUMULATION; SWEDEN; COMPARATIVE EVALUATIONS; LIVER; KIDNEYS; PANCREAS; METALS	Elinder, C-G. Piscator, M. Linnman, L. 1977
1375 Pancreas		AAS	1	Not applicable	56 ppm wet wt	74-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES; BONES; HEART; JAPAN; BLOOD SERUM	Nogawa, K. Ishizaki, A. Fukushima, M. 1975

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1376 Pancreas		AAS	30	21-52 ug/g wet wt	35 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
1377 Placenta			58	a) Not given b) Not given c) Not given d) Not given	a) 10.232 ug/g wet wt b) 9.422 ug/g wet wt c) 9.957 ug/g wet wt d) 11.571 ug/g wet wt	a) All cities b) Augusta, GA c) Birmingham, AL d) Charlotte, NC Metal levels correlated with enzyme activities. Samples from 58 normal placentas collected immediately at delivery in hospitals in Charlotte, NC, Birmingham, AL and Augusta, GA. PLACENTA; MANGANESE; BARIUM; CADMIUM; SELENIUM; MERCURY; TIN; VANADIUM; BERYLLIUM; SILVER; COBALT; NICKEL; CHROMIUM; COPPER; ZINC; LEAD; IRON; PLATINUM; BORON; ARSENIC; LITHIUM; METALS; TRACE ELEMENTS; ENZYMES; NORTH CAROLINA; ALABAMA; GEORGIA	Karp, W.B. Robertson, A.F. 1977

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1378 Saliva		AAS	34 controls, 47	a) 27-82 ppb b) 0-22 ppb	a) 51 ppb b) 10 ppb	a) Control b) Patients with hypogeusia The flameless technique is superior to the flame technique at low Zn concentrations. No significant differences in concentrations for race or sex in controls. Taste acuity was determined in 34 normal volunteer subjects and in 47 patients with idiopathic hypogeusia. ZINC; TASTE BUD DISEASES; SALIVA; PAROTID GLAND; METALS	Henkin, R.I. Mueller, C.W. Wolf, R.O. 1975
1379 Saliva		CC AAS	a) 34 b) 47	a) Not given b) Not given	a) 51 ppb b) 10 ppb	a) Normal subjects b) Patients with hypogeusia Saliva from parotid gland Diagnosed hypogeusia in study group. Controls had normal taste activity. ZINC; PAROTID GLAND; PROTEINS; SALIVA; BLOOD SERUM; AMINO ACIDS; NUTRITIONAL DISORDERS; TASTE BUD DISEASES; METALS	Henkin, R.I. Lippoldt, R.E. Bilstad, J. Edelhoch, H. 1975
1380 Skin		AAS	4	2.47-3.49 mg/day	2.84 mg/day	Samples from four teenagers in 3rd trimester of pregnancy ZINC; METALS; TRACE ELEMENTS; ADOLESCENTS; PREGNANCY; MINERAL METABOLISM; DIETS; FECES; BLOOD; SKIN; URINE; PROTEINS	Shraer, K.K. Calloway, D.H. 1976

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1381 Skin		AAS	1	Not applicable	9.2 ppm wet wt	74-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES; BONES; HEART; JAPAN; BLOOD SERUM	Nogawa, K. Ishizaki, A. Fukushima, S. 1975
1382 Skin		AAS	21	5.2-17 ug/g wet wt	11 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1383 Spleen		AAS	1	Not applicable	21 ppm wet wt	74-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES	Nogawa, K. Ishizaki, A. Fukushima, M. 1975
1384 Spleen		AAS	11	18-33 ug/g wet wt	21 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Susino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1385 Stomach		AAS	1	Not applicable	23 ppm wet wt	74-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES; BONES; HEART; JAPAN; BLOOD SERUM	Nogawa, K. Ishizaki, A. Fukushima, N. 1975
1386 Teeth		X-ray Spectrometry	a) 10 b) 16 c) 12	a) Not given b) Not given c) Not given	a) 134.0 ug/g dentin b) 178.0 ug/g dentin c) 151.0 ug/g dentin	a) 17th Century Hopi b) Contemporary Hopi c) Contemporary California Samples from individual skeletons of Hopi Indians dated 17th century, samples from contemporary Hopi Indian children in Arizona, and samples from children in suburban Northern California. LEAD; STRONTIUM; ZINC; COPPER; MERCURY; CALCIUM; PHOSPHORUS; METALS; TRACE ELEMENTS; MINERALS; TEETH; ARIZONA; CALIFORNIA; DIETS; BIOACCUMULATION; CHILDREN	Kuhnlein, H.V. Calloway, D.H. 1977

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1387 Teeth		ASV	a) 8 b) 2	a) 127-542 ppm b) 76-129 ppm	a) Not given b) Not given	a) 8 caries-free teeth from Norwegian teenagers b) Two powdered tooth mixtures Eight permanent teeth and two powdered tooth mixtures from Norwegian teenagers BIOACCUMULATION; TEETH; ADOLESCENTS; NORWAY; METALS; COPPER; LEAD; CADMIUM; ZINC	Cohse, M. Lund, W. Jonsen, J. 1978
1388 Teeth		AAS	2300	90.0-402.5 ug/g	Not given	Range of means for samples from 25 Norwegian cities and counties. Teeth shed or extracted from 1972 through 1975, plus 38 medieval deciduous teeth. ZINC; COPPER; METALS; TRACE ELEMENTS; TEETH; NORWAY	Fosse, G. Justesen, B.-P.B. 1978
1389 Teeth		AAS	a) 4 b) 4 c) 26	a) 48-65 ppm b) 50-95 ppm c) Not given	a) 58 ppm b) 80 ppm c) 83 ppm	a) Teeth from fetuses, 1972-1973, enamel b) Teeth from fetuses, 1972-1973, dentine c) Teeth from cases of stillbirth and neonatal death, 1972-1973 LEAD; NICKEL; ZINC; CADMIUM; MANGANESE; IRON; METALS; TRACE ELEMENTS; TEETH; INFANTS; FETUS; UNITED KINGDOM	Stack, M.V. Burkitt, A.J. Nickless, G. 1976

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1390 Testicle		AAS	6	12-19 ug/g wet wt	25 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975
1391 Thyroid gland		AAS	1	Not applicable	73 ppm wet wt	74-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; SPINE; CASE HISTORIES; AUTOPSIES; BONES; HEART; JAPAN; BLOOD SERUM	Nogawa, K. Ishizaki, A. Fukushima, M. 1975

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1392 Trachea		AAS	1	Not applicable	20 ppm wet wt	78-year-old woman with Itai-itai disease, in the Ichi River basin. Severe pain throughout whole body Deformities of lower extremities LIVER; KIDNEYS; PANCREAS; LUNGS; MUSCLES; SKIN; TRACHEA; STOMACH; THYROID GLANDS; SPLEEN; ADRENAL GLANDS; BRAIN; RIBS; SPINAL CORD; VERTEBRAE; INTESTINES; ESOPHAGUS; CADMIUM; ZINC; METALS; DISEASES; URINE; CASE HISTORIES; AUTOPSIES; BONES; HEART; JAPAN; BLOOD SERUM	Nogawa, K. Ishizaki, A. Fukushima, M. 1975
1393 Trachea		AAS	6	11-21 ug/g wet wt	15 ug/g wet wt	Samples from 30 cadavers in central Japan, mean age of 39 years, extent of heavy metal exposure unknown. METALS; ARSENIC; BERYLLIUM; BISMUTH; CADMIUM; CHROMIUM; COBALT; COPPER; MERCURY; METHYL MERCURY COMPOUNDS; MANGANESE; MOLYBDENUM; NICKEL; LEAD; ANTIMONY; VANADIUM; ZINC; BRAIN; TRACHEA; LUNGS; HEART; LIVER; PANCREAS; SPLEEN; KIDNEYS; ADRENAL GLANDS; INTESTINES; TESTES; OVARIES; MUSCLES; SKIN; BLOOD; BONES; ADIPOSE TISSUE; CADAVERS; JAPAN	Sumino, K. Hayakawa, K. Shibata, T. Kitamura, S. 1975

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1394 Urine		AAS	6	a) Not given b) Not given	a) 454 ug/24 hr b) 5,269 ug/24 hr	a) Prior to histidine administration b) During histidine administration Samples from patients, 37 to 56 years of age, hospitalized at the National Institutes of Health, Bethesda, MD. Patients were diagnosed with progressive systemic sclerosis. Each patient developed anorexia, dysfunction of taste and smell, mental changes, and cerebellar dysfunction after administration of histidine. ZINC; METALS; TRACE ELEMENTS; MINERAL METABOLISM; NUTRITIONAL DISORDERS; HISTIDINES; BLOOD SERUM; URINE; MARYLAND	Henkin, R.I. Patten, B.M. Re, P.K. Bronzert, D.A. 1975
1395 Urine		AAS	a) 5 b) 5 c) 5 d) 5	a) 0.21-0.52 mg/day b) 0.03-0.08 mg/day c) 0.08-0.55 mg/day d) 0.06-0.25 mg/day	a) 0.36 mg/day b) 0.06 mg/day c) 0.40 mg/day d) 0.15 mg/day	a) Oral contraceptive-days 2-4 b) Oral contraceptive days 32-34 c) Controls-days 2-4 d) Controls-days 32-34 Ten women, 18-26 years old. Five had used oral contraceptives (mestranol and norethindrone) for at least 6 months prior to the investigation. Five were controls. Data available for serum. ORAL CONTRACEPTIVES; ZINC; BLOOD; BLOOD SERUM; URINE; FECES; MENSTRUATION; DIETS; COPPER; IRON; INTEGUMENT; METALS	Hess, F.M. King, J.C. Margen, S. 1977

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1396 Urine		AAS	11	a) Not given b) Not given	a) 0.46 mg/day b) 0.48 mg/day	a) Losses on diet with 11.32 mg or 11.64 mg Zn daily b) Losses on diet with 14.52 mg or 14.84 mg Zn daily Samples from girls between 12.5 and 14.2 years of age in a metabolic unit of Purdue University. The lower level of zinc was probably not enough to maintain zinc balance in adolescent girls, but the higher level caused increased fecal losses of copper. ZINC; NITROGEN; COPPER; IRON; MANGANESE; URINE; FECES; MINERAL METABOLISM; TRACE ELEMENTS; DIETS; ADOLESCENTS; METALS	Greger, J.L. Zaikis, S.C. Abernathy, R.P. Bennett, O.A. Huffman, J. 1978
1397 Urine		AAS	1	a) Not given b) 6,935 ug/24 hr c) Not given	a) 1,250 ug/24 hr b) Not given c) 750 ug/24 hr	a) Day of hospital admission b) Maximum during therapy with EDTA c) During therapy with $ZnSO_4$ a) and c) estimated from graph. A 37-year old man who had worked for 5 months in a lead battery factory and 25 years previously as a spray painter using lead-based paints. Vague pains in extremities, easily fatigued, generalized weakness, headache, loss of appetite. Mild neuropathy and myopathy LEAD; METALS; ZINC; CASE HISTORIES; OCCUPATIONAL HAZARDS; INDUSTRIAL PLANTS; PAINTS; LEVULINIC ACIDS; ENZYMES; BLOOD; BLOOD SERUM; URINE; HAIR	Thomasino, J.A. Zuroweste, E. Brooks, S.M. Petering, H.G. Lerner, S.I. Finelli, V.N. 1977

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Zinc
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Zn, [illegible], MP 419.5 C, BP 908 C, VP 1 mm Hg at 487 C, 10 mm Hg at 594 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1398 Urine			a) 3 b) 3 c) 2 d) 2	a) 0.7-1.0 mg/24 hr b) 0.8-1.1 mg/24 hr c) 0.8-0.9 mg/24 hr d) 0.8-0.9 mg/24 hr	a) 0.8 mg/24 hr b) 0.9 mg/24 hr c) 0.9 mg/24 hr d) 0.9 mg/24 hr	a) Low fiber diet b) Low fiber diet plus cellulose c) High fiber diet d) High fiber diet plus cellulose Plasma concentrations also determined Iranian subjects ingested low- or high-fiber diets, plus a supplement of Whatman #3 filter paper dispersed in apple compote. ZINC; CALCIUM; MAGNESIUM; PHOSPHORUS; FECES; URINE; IRAN; DIETS; CELLULOSE; METABOLISM; FIBERS; BLOOD PLASMA; METALS	Ismail-Beigi, F. Reinhold, J.G. Faraji, B. Abadi, P. 1977
1399 Urine		AAS	4	0.49-0.82 mg/day	0.62 mg/day	Samples from four teenagers in 3rd trimester of pregnancy ZINC; METALS; TRACE ELEMENTS; ADOLESCENTS; PREGNANCY; MINERAL METABOLISM; DIETS; FECES; BLOOD; SKIN; URINE; PROTEINS	Shraer, K.F. Calloway, D.H. 1976

Zinc, [(Dihydrogen 3,7,12,17-tetramethyl-8,13-divinyl-2,18-porphinedipropionate(2-))- (8 CI)
Zinc, [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(2-)-N(21),N(22),N(23),N(24)]-, (SP-4-2)- (9 CI)
15442-68-5
C34-H30-N4-O4-Zn.2H
MW 626.03

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1400 Blood			a) 15 b) 15	a) 24-250 ug/100 ml b) 27-54 ug/100 ml	a) 61.4 ug/100 ml b) 37.6 ug/100 ml	a) Smelter worker's children b) Control children Children 6 years of age or under from homes of employees of lead smelters and from control homes. LEAD; METALS; OCCUPATIONAL HAZARDS; INDUSTRIAL HYGIENE; SMELTERS; CHILDREN; ZINC ORGANIC COMPOUNDS	Rice, C. Fischbein, A. Lilis, R. Sarkozi, L. Kon, S. Selikoff, I.J. 1978
1401 Blood		Fluorometry	Approx 150, 24 controls	a) < 100 ug/dl b) > 200 ug/dl c) > 500 ug/dl	a) Not given b) Not given c) Not given	a) 10% of workers and 2% controls b) 7% of workers c) 1% of workers Workers in lead smelter. Male workers, half of which were less than 30 yr, equally distributed as white or black race, currently employed in 2 secondary lead smelters. Controls were 24 workers from nearby plants with no known lead exposure. Lead anemia, lead colic, gastrointestinal symptoms, central nervous systems symptoms, muscle and joint pains, hypertension, kidney disease. Incidence of non-colic abdominal pain higher in control group smelter workers. Cell hemoglobin concentration coorelated with both blood-lead and ZPP (zinc protoporphyrin) levels. Results show that lead inhibits Hb synthesis but not red blood cell production. ZINC; PROTOPORPHYRINS; LEAD; METALS; BIOINDICATORS; OCCUPATIONAL HAZARDS; SMELTERS; BLOOD	Fisinger, J. Blumberg, W.E. Fischbein, A. Lilis, R. Selikoff, I.J. 1978

1-Penten-3-yn-1-ol, 1-chloro-1-ethyl-
113-18-8
C7-H9-Cl-O
MW 144.61, BP 173-174 C, also reported as 181 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1402 Bile		GC	1	Not applicable	33 ug/dl	Fatal overdose. DRUGS; CHLORINE ORGANIC COMPOUNDS; BLOOD; URINE; BILE; AUTOPSIES; MEASUREMENT METHODS	McCurdy, H.H. 1978
1403 Blood		GC	a) 1 b) 5	a) Not applicable b) 1.9-17.7 ug/dl	a) 1.2 mg/dl b) 6.9 mg/dl	a) Non-fatal case b) Fatal overdose cases 6 overloses, 5 of the fatal. DRUGS; MEASUREMENT METHODS; BLOOD; URINE; BILE; AUTOPSIES; DRUG ABUSE; CHLORINE ORGANIC COMPOUNDS	McCurdy, H.H. 1978
1404 Blood			1	Not applicable	26 ug/l	Death, phencyclidine and ethanol also present Cases investigated by the Maryland Medical Examiner in 1976 and 1977 in which phencyclidine was found: 36 whites, 1 black, 32 males, 5 females, age range, 16 to 42 yr. Causes of death included gunshot wounds, smoke and soot inhalation, drowning, drug intoxication. DRUGS; ALCOHOLS; DIAZEPAMS; CARBON INORGANIC COMPOUNDS; NARCOTICS; SEDATIVES; BLOOD; URINE; BILE; BRAIN; LIVER; KIDNEYS; DRUG ABUSE; AUTOPSIES; CASE HISTORIES; MARYLAND	Caplan, Y.H. Orloff, K.G. Thompson, B.C. Fisher, R.S. 1979
1405 Urine		GC	1	Not applicable	6.2 ug/dl	Fatal overdose. DRUGS; CHLORINE ORGANIC COMPOUNDS; BLOOD; URINE; BILE; AUTOPSIES; MEASUREMENT METHODS	McCurdy, H.H. 1978

1-Pentyn-3-ol, 3-methyl-
77-75-8
C6-H10-O

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1806 Blood		GC	1	Not applicable	78.0 mg/l	Alcohol and 2 other drugs also present. Samples from coroners' autopsies from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, R. 1979
1807 Urine		GC	1	Not applicable	31.0 mg/l	Alcohol and 2 other drugs also present. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, R. 1979

1,2-Benzisothiazoline, 1,1-dioxide (8 CI)
1,2-Benzisothiazole, 2,3-dihydro-, 1,1-dioxide (9 CI)
936-16-3
C7-H7-N-02-S
MW 169.20

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
14C8 Urine	Ingestion	Radiometry	2	a) 87-92% b) 90.6-93.8% c) 92-94%	a) Not given b) Not given c) Not given	a) 1 day b) 2 days c) 8 days Cumulative percent of radioactive label excreted after a 37 mg dose. Samples from two males (75 and 83 kg). DRUGS; SWEETENING AGENTS; METABOLITES; URINE; FECES; UNITED KINGDOM	Renwick, A.G. Williams, R.T. 1978

1,3-Propanediol, 2-methyl-2-propyl-, dicarbamate
57-53-4
C9-H18-N2-O4

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1409 Blood			1	Not applicable	12 mg/l	Death, phencyclidine also present in blood Cases investigated by the Maryland Medical Examiner in 1976 and 1977 in which phencyclidine was found: 36 whites, 7 black, 32 males, 5 females, age range, 16 to 42 yr. Causes of death included gunshot wounds, smoke and soot inhalation, drowning, drug intoxication. DRUGS; ALCOHOLS; DIAZEPAMS; CARBON INORGANIC COMPOUNDS; NARCOTICS; SEDATIVES; BLOOD; URINE; BILE; BRAIN; LIVER; KIDNEYS; DRUG ABUSE; AUTOPSIES; CASE HISTORIES; MARYLAND	Caplan, Y.H. Orloff, K.G. Thompson, E.C. Fisher, R.S. 1979
1410 Blood, plasma	Ingestion	GC	12	6.8-8.9 ug/ml	Not given	Values for mean peak levels. 95.8-106.0% of label actually present in the tablets. Times of peaks varied from 1-5-3.8 hr. Each point is mean of 6 subjects. Other data available. Healthy male volunteers, aged 22-27 yrs DRUGS; BLOOD PLASMA; SEDATIVES	Meyer, M.C. Melikian, A.D. Straughn, A.B. 1978

1,3,4-Metheno-1H-cyclobuta(cd)pentalene, 1,1a,2,2,3,3a,4,5,5,5a,5b,6-dodecachlorooctahydro-
2385-85-5
C10-Cl12
MW 545.6, MP 485 C, VP 6X10(-6) mm Hg at 50 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1973 Adipose		GC-EC	6	0.16-5.94 ppm	2.50 ppm	Values lowest in a 64 yr old male Caucasian, highest in a 10 yr old male Negro. Occupational data included. Samples from postmortem examinations and from specimens removed during therapeutic surgery. Five patients were from Georgia and one from Louisiana (both states used Mirex extensively in fire ant control program). Decedents included 3 males over 50, one female 43 yr old, one male 10 yr old. Surgery patient was 57 yr old female. Negroes and Caucasians were evenly divided. Pathological diagnoses were included as a matter of interest, and not to be interpreted as resulting from presence of Mirex. Data on 10 yr old included bilateral bronchopneumonia, acute possible congestion of liver and spleen, multiple superficial gastric mucosal erosions. Agricultural use in control of fire ant PESTICIDES; AUTOPSIES; POPULATION EXPOSURE; ADIPOSE TISSUE; CHLORINE ORGANIC COMPOUNDS	Kutz, F.W. Yobs, A.R. Johnson, W.G. Wiersma, G.B. 1974a

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1,3,4-Metheno-1H-cyclobuta(cd)pentalene, 1,1a,2,2,3,3a,4,5,5,5a,5b,6-dodecachlorooctahydro-
2385-85-5
C10-C112
MW 545.6, MP 485 C, VP 6X10(E-6) mm Hg at 50 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1812 Milk, fat		HPLC MS GC-EC	14	a) 6.8-21.5 ng/g fat b) 2.3-11.1 ng/g fat	a) Not given b) Not given	a) Mass spectrometric method (MS) b) Gas chromatographic method (GC) Poor agreement between MS and GC results. Data from GC are questionable. Mirex in 3 of 14 samples analyzed. 14 human milk samples (5 from Ontario, 2 from Eastern, 3 from Central and 4 from the Western region) MILK; FATS; PESTICIDES; ULTRAVIOLET RADIATION; CHLORINATED HYDROCARBONS; CANADA; BREAST	Mes, J. Davies, D.J. Miles, W. 1978

1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-, endo,exo- (8 CI)
2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- (9 CI)
60-57-1
C12-H8-Cl6-O
MW 380.93, MP 176-177 C, VP 7.7AX10(E-7) mm Hg at 20 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1813 Adipose	Inhalation	GC	a) 14 b) 10 c) 20 d) 35	a) Not given b) Not given c) Not given d) Not given	a) 0.22 ppm b) 0.24 ppm c) 0.30 ppm d) 0.24 ppm	a) Females, black b) Females, white c) Males, black d) Males, white Values from 68 controls ranged from 0.20-0.25 ppm. Samples from autopsies obtained during 1973-1974 at Medical College of Pennsylvania, Philadelphia and from patients undergoing abdominal surgery at Veterans Hospital, Durham, NC. Cigarette smoke ADIPOSE TISSUE; INSECTICIDES; TOBACCOS; SMOKING; AUTOPSIES; CHLORINATED HYDROCARBONS; PESTICIDES; DDT; DIELDRIN; PENNSYLVANIA; NORTH CAROLINA; RACIAL STUDIES	Domanski, J.J. Nelson, L.A. Guthrie, F.E. Domanski, R.E. Mark, H. Postlethwait, R.W. 1977
1814 Adipose		GC-EC	1	Not applicable	24,600 ppb	Professional pest control operator Bile, gallstone, and adipose fat obtained from a pest control worker who underwent cholecystectomy. Bile obtained from T-tube drainage of 5 hospitalized patients (who had not been associated with pesticide-using industries) following cholecystectomies. BILE; PESTICIDES; DIELDRIN; CHLORINATED HYDROCARBONS; LIVER; DDT; DDE; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE; OCCUPATIONAL HAZARDS; ARIZONA; BLOOD SERUM; ADIPOSE TISSUE	Paschal, E.H. Egan, C.C. Morgan, D.P. 1974
1815 Adipose		GC-EC	898	Maximum value: 2.21 ppm	0.15 ppm	75 collecting sites throughout the U.S.A. Sample quota allocated proportionally according to age, sex, and race distribution in the 1970 Census. Adipose tissue from postmortem examinations and surgical specimens. ADIPOSE TISSUE; PESTICIDES; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; AUTOPSIES; SURGERY; RACIAL STUDIES; DDT; DIELDRIN; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE; OXYCHLORDANE	Kutz, F.W. Yobs, A.R. Strassman, S.C. 1977
1816 Adipose		GC-EC	1412	0-15.20 ppm	0.27 ppm	Samples of adipose tissue obtained through pathologists in 32 cities in the U.S.A. ADIPOSE TISSUE; PESTICIDES; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; AUTOPSIES; DDT; DIELDRIN; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE	Kutz, F.W. Yobs, A.R. Johnson, W.G. Wiersma, G.B. 1974a

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1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-, endo,exo- (8 CI)
2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- (9 CI)
60-57-1
C12-H8-Cl6-O
MW 380.93, MP 176-177 C, VP 7.78X10(E-7) mm Hg at 20 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1417 Adipose		GC-EC	170	0.001-0.75 ppm	0.049 ppm	Subcutaneous adipose tissue of the abdomen from 170 autopsy cases of sudden death collected at Medicolegal Center of Tehran. Ages from 4-91 years. PESTICIDES; ADIPOSE TISSUE; IRAN; CHLORINATED HYDROCARBONS; DIELDRIN; DDT; BIOACCUMULATION; METABOLITES; CHLORINE ORGANIC COMPOUNDS; AUTOPSIES; AGE; DDE; HEXACHLOROCYCLOHEXANE	Hashemy-Tonkabony, S.E. Soleimani-Amiri, M.J. 1978
1418 Adipose		CC GC-EC	a) 5 b) 9	a) 0.05-0.32 ppm b) 0.26-1.44 ppm	a) 0.1699 ppm b) 0.7969 ppm	a) Control-adjacent to breast tissue b) Adjacent to malignant breast tissue Values represent the concentrations in extracted lipids. Malignant tissue, adjacent to apparently normal glandular and adipose tissue of nine women with adenocarcinoma of the breast, obtained from the A.C. Camargo Hospital in Sao Paulo. Mammary gland and adjacent adipose tissue from 5 healthy women who died accidentally used for controls. BREAST; MAMMARY GLANDS; NEOPLASMS; ADIPOSE TISSUE; CARCINOMAS; PESTICIDES; LIPIDS; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; BIPHENYL COMPOUNDS; DIELDRIN; POLYCHLORINATED BIPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE; DDD; HEPTACHLOR EPOXIDE	Wassermann, M. Nogueira, D.P. Tomatis, L. Mirra, A.P. Shibata, H. Arie, G. Cucos, S. Wassermann, D. 1976

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1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-, endo,exo- (8 CI)
2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- (9 CI)
60-57-1
C12-H8-Cl6-O
MW 380.93, MP 176-177 C, VP 7.78X10(E-7) mm Hg at 20 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1419 Adipose		CC GC-EC	8	Not given	0.1998 ppm	In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DIT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977
1420 Adipose		TLC GC/MS GC-EC	a) 1412 b) 1615 c) 1913 d) 1694 e) 898	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 0.18 ppm b) 0.22 ppm c) 0.18 ppm d) 0.18 ppm e) 0.15 ppm	a) 1970 survey, 96.53% positive samples b) 1971 survey, 99.20% positive samples c) 1972 survey, 98.27% positive samples d) 1973 survey, 99.00% positive samples e) 1974 survey, 98.89% positive samples Lipid basis Means are geometric. Samples from lactating women in selected areas of Arkansas and Mississippi. PESTICIDES; ADIPOSE TISSUE; MILK; URINE; BIOACCUMULATION; BIPHENYL COMPOUNDS; CHLORINATED HYDROCARBONS; ARKANSAS; MISSISSIPPI	Kutz, F.W. Strassman, S.C. Yobs, A.R. 1977
1421 Adipose		GC-EC		a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 0.17 ppm b) 0.23 ppm c) 0.18 ppm d) 0.18 ppm e) 0.16 ppm f) 0.17 ppm Geometric	a) FY 70 b) FY 71 c) FY 72 d) FY 73 e) FY 74 f) FY 75 Data from general population, collected by Nat'l Human Monitoring Program for Pesticides. PESTICIDES; CHLOROBENZENES; CHLORINE ORGANIC COMPOUNDS; DDT; UNITED STATES	Kutz, F.W. Strassman, S.C. Sperling, J.F. 1978
1422 Amniotic fluid		CC GC-EC	4	Not given	7.6456 ppm	In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DIT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977

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1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-, endo,exo- (8 CI)
2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- (9 CI)
60-57-1
C12-H8-Cl6-O
MW 380.93, MP 176-177 C, VP 7.78X10(E-7) mm Hg at 20 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1423 Bile		GC-EC	a) 1 b) 5	a) Not applicable b) 0.0-0.5 ppb	a) 59 ppb b) 0.14 ppb	a) Professional pest control operator b) Control patients Bile, gallstone, and adipose fat obtained from a pest control worker who underwent cholecystectomy. Bile obtained from T-tube drainage of 5 hospitalized patients (who had not been associated with pesticide-using industries) following cholecystectomies. BILE; PESTICIDES; DIELDRIN; CHLORINATED HYDROCARBONS; LIVER; DDT; DDE; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE; OCCUPATIONAL HAZARDS; ARIZONA; BLOOD SERUM; ADIPOSE TISSUE	Paschal, E.H. Roan, C.C. Morgan, D.P. 1974
1424 Blood		GC-EC	22	0.01-0.05 ug/ml	Not given	Found in 6 cases out of 22 occupational exposures. Subjects exposed to insecticides in different ways, e.g., mixing, spraying, supervision of aerial spraying, and insect counting in recently sprayed fields. BLOOD; INSECTICIDES; CROP DUSTING; CHLORINE ORGANIC COMPOUNDS; OCCUPATIONAL HAZARDS; SUDAN; CHLORINATED HYDROCARBONS; DDE; DDT; DIELDRIN; DDD	El Zorgani, G.A. Musa, A. 1976

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1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-, endo,exo- (8 CI)
2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- (9 CI)
60-57-1
C12-H8-Cl6-O
MW 380.93, MP 176-177 C, VP 7.78X10(E-7) mm Hg at 20 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1425 Blood		CC GC-EC	a) 24 b) 23	a) Not given b) Not given	a) 0.5301 ppm b) 1.2159 ppm	a) Maternal b) Fetal In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DDT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977
1426 Blood		CC GC-EC	a) 1 b) 1 c) 1130 d) 115	a) Not given b) Not given c) Not given d) Not given	a) 204 ppb b) 107 ppb c) 1.47 ppb d) 2.15 ppb	a) Following acute exposure b) Two months after exposure c) Baseline level in group of Hawaiians d) Heads of households. Levels in d) positively coorelated with house dust Additional information given of symptoms reported from 16 occupational exposures. Samples from residents of Hawaii collected from 1964-1973. Patient with acute exposure was a pest control operator. Neurologic symptoms, encephalopathy. Recovered after treatment with Dilantin. PESTICIDES; HAWAII; OCCUPATIONAL HAZARDS; BLOOD SERUM; DDT; DDE; DIELDRIN	Klemmer, H.W. Budy, A.M. Takahashi, W. Haley, T.J. 1977

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1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-, endo,exo- (8 CI)
2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- (9 CI)
60-57-1
C12-H8-Cl6-O
MW 380.93, MP 176-177 C, VP 7.78X10(E-7) mm Hg at 20 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1427 Blood, serum		GC-EC	a) 516 b) 494 c) 884 d) 67 e) 960	a) Not given b) Not given c) Not given d) Not given e) 0-0.42 ppb f) 1.4-2.3 ppb	a) 0.319 ppb b) 0.129 ppb c) 0.222 ppb d) 0.336 ppb e) 0.23 ppb f) 1.89 ppb	a) Males b) Females c) No occupational exposure d) Possible occupational exposure e) Overall sample by county of residence f) 24 control sera Samples from 1,035 volunteers representing 38 counties participating in Adult Health Screening Program from August 1968 to April 1970. Occupations grouped in categories as related to pesticides, not related to pesticides, and unknown. Race was excluded as a variable. Agricultural application BLOOD SERUM; CHLORINATED HYDROCARBONS; PESTICIDES; RURAL AREAS; AGRICULTURE; DDE; DDT; DIELDRIN; MICHIGAN	Bloomer, A.W. Nash, S.I. Price, H.A. Welch, R.L. 1977
1428 Blood, serum			3,568	Not given	2.4 ppb	Normal subjects Individuals attending the health appraisal center at the Pacific Health Research Institute in July 1969 to December 1970. CHLORINE ORGANIC COMPOUNDS; PESTICIDES; BLOOD SERUM; CHOLESTEROLS; HAWAII; BIOACCUMULATION	Rashad, M.N. Mi, M.P. Klemmer, H.W. Rudy, A.M. Reichert, E.L. 1976
1429 Blood, serum		GC-EC	1	Not applicable	165 ppb	Professional pest control operator Bile, gallstone, and adipose fat obtained from a pest control worker who underwent cholecystectomy. Bile obtained from T-tube drainage of 5 hospitalized patients (who had not been associated with pesticide-using industries) following cholecystectomies. BILE; PESTICIDES; DIELDRIN; CHLORINATED HYDROCARBONS; LIVER; DDT; DDE; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE; OCCUPATIONAL HAZARDS; ARIZONA; BLOOD SERUM; ADIPOSE TISSUE	Paschal, E.M. Boan, C.C. Morgan, D.P. 1974
1430 Blood, serum	Skin		a) 1 b) 2 c) 9 d) 4	a) Not applicable b) Not applicable c) <1.0 ppb-5.2 ppb d) Not applicable	a) 10 ppb b) < 1.0 ppb c) Not given d) <1.0 ppb	a) Former pest control operator with exposed left hand b) Current pest control operators c) Farmers d) Controls, nonoccupationally exposed Skin disorder on left hand after 2 years employment as pest control operator. Pesticide bottles and sprayers PESTICIDES; OCCUPATIONAL HAZARDS; BLOOD SERUM; SKIN; AGRICULTURE; MICHIGAN; BIOACCUMULATION; DDT; DDE; DIELDRIN	Kazen, C. Bloomer, A. Welch, R. Oudbier, A. Price, H. 1974

1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-, endo,exo- (8 CI)
2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- (9 CI)
60-57-1
C12-H8-Cl6-O
MW 380.93, MP 176-177 C, VP 7.78X10(-7) mm Hg at 20 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1431 Endometrium		GC GC-EC	14	a) Not detectable-2.04 ppm b) Not detectable-0.0078 ppm	a) 0.31 ppm b) 0.0006 ppm	a) lipid extractable material b) Whole tissue Samples from residents of Hawaii collected from 1964-1972 PESTICIDES; HAWAII; FETUS; FETAL MEMBRANES; MILK; UTERUS; BLOOD SERUM; DDT; DDE; DIELDRIN	Klemmer, H.W. Rudy, A.M. Takahashi, W. Haley, T.J. 1977
1432 Fetal		GC GC-EC	15	a) Not detectable-1.46 ppm b) Not detectable-0.0049 ppm	a) 0.24 ppm b) 0.0007 ppm	a) lipid extractable material b) Whole tissue Fetal tissue includes fetus, cord, amnion, chorion, and chorionic villi 3 months or less in development. Samples from residents of Hawaii collected from 1964-1973 PESTICIDES; HAWAII; FETUS; FETAL MEMBRANES; MILK; UTERUS; BLOOD SERUM; DDT; DDE; DIELDRIN	Klemmer, H.W. Rudy, A.M. Takahashi, W. Haley, T.J. 1977
7433 Hair		GC	5	<0.01-0.01 ppm	Not given	On 2 occasions, 4 months apart, 5 samples of hair representing a composite of 5 or more individuals were collected over a one-week period from a barber's shop. HAIR; CHLORINATED HYDROCARBONS; DIELDRIN; BIPHENYL COMPOUNDS; LIPIDS; PESTICIDES; INSECTICIDES; POLYCHLORINATED BIPHENYLS; DIELDRIN; DDT; NORTH CAROLINA	Matthews, H.B. Domanski, J.J. Guthrie, F.E. 1976

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1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-, endo,exo- (8 CI)
2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- (9 CI)
60-57-1
C12-H8-Cl6-O
MW 380.93, MP 176-177 C, VP 7.78X10(E-7) mm Hg at 20 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1434 Mammary gland		CC GC-EC	a) 5 b) 9 c) 9	a) 0.16-0.47 ppm b) 0-2.67 ppm c) 0-1.25 ppm	a) 0.2891 ppm b) 0.9056 ppm c) 0.4590 ppm	a) Control b) Malignant c) Breast tissue adjacent to malignancy Malignant tissue, adjacent to apparently normal glandular and adipose tissue of nine women with adenocarcinoma of the breast, obtained from the A.C. Camargo Hospital in Sao Paulo. Mammary gland and adjacent adipose tissue from 5 healthy women who died accidentally used for controls. BREAST; MAMMARY GLANDS; NEOPLASMS; ADIPOSE TISSUE; CARCINOMAS; PESTICIDES; LIPIDS; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; BIPHENYL COMPOUNDS; DIELDRIN; POLYCHLORINATED BIPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE; DDD; HEPTACHLOR EPOXIDE	Wassermann, M. Nogueira, D.P. Tomatis, L. Mirra, A.P. Shibata, H. Arie, G. Cucos, S. Wassermann, D. 1976
1435 Milk		GC-EC	57	Trace-0.05 ppm	0.012 ppm	Residue levels were below instrument sensitivity and could not be confirmed. Samples from 17 Negroes and 40 Caucasians in hospitals in Arkansas and Mississippi. Agricultural application on rice fields PESTICIDES; PESTICIDE RESIDUES; MILK; BIOACCUMULATION; POPULATION EXPOSURE; MAMMARY GLANDS; LACTATION; PLACENTA; ARKANSAS; MISSISSIPPI	Strassman, S.C. Kutz, F.W. 1977

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1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-, endo,exo- (8 CI)
2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- (9 CI)
60-57-1
C12-H8-Cl6-O
MW 380.93, MP 176-177 C, VP 7.78X10(E-7) mm Hg at 20 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1436 Milk		CC GC-EC	6	a) Not detectable-0.25 ppm b) Not detectable-0.012 ppm	a) 0.05 ppm b) 0.003 ppm	a) Values for milk fat b) Values for whole milk Samples from residents of Hawaii collected from 1964-1973 PESTICIDES; HAWAII; FETUS; FETAL MEMBRANES; MILK; UTERUS; BLOOD SERUM; DDT; DDE; DIELDRIN	Klemmer, H.W. Budy, A.M. Takahashi, W. Haley, T.J. 1977
1437 Milk		TLC GC	a) 59 b) 15 c) 97	a) 0.9-2.6 ug/kg b) 0.8-1.8 ug/kg c) 0.4-1.3 ug/kg	a) 1.4 ug/kg b) 1.1 ug/kg c) 0.7 ug/kg	a) Nov 1971-Dec 1972 b) June-Nov 1974 c) Mar 1976-Mar 1977 Each case represents a pooled sample from 10-20 mothers. Samples from women in Stockholm, Sweden. PESTICIDES; SWEDEN; MILK; BIPHENYL COMPOUNDS; CHLORINE ORGANIC COMPOUNDS; CHLOROBENZENES; POLYCHLORINATED BIPHENYLS; DIELDRIN; DDT; DDE; HEXACHLOROCYCLOHEXANE	Westoo, G. Noren, K. 1978
1438 Milk		GC	2	0.10-0.11 ug	0.12 ug	Amounts varied for different feedings. Values are daily total. Samples from donors at various times of breast feeding and at different times of the day. MILK; PESTICIDES; PESTICIDE RESIDUES; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; HEXACHLOROBENZENE; DDT; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE; OXYCHLORDANE; NONACHLOR; DDE; DIELDRIN	Mes, J. Davies, D.J. 1978

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1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8a-octahydro-, endo,exo- (8 CI)
2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- (9 CI)
60-57-1
C12-H8-C16-O
MW 380.93, MP 176-177 C, VP 7.78X10(E-7) mm Hg at 20 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1439 Milk		GC-EC	a) 5 b) 5	a) Not given b) Not given	a) 1 gamma/day b) <0.001 ppm (trace)	a) Breast-feeding mothers with one child b) Breast-feeding mothers with twins. Data for 1974 Two groups of breast-feeding mothers, one group feeding one infant and the other group feeding twins. Food Contamination PESTICIDES; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BREAST; INFANTS; FOODS	Adamovic, V.M. Sokic, B. Smiljanski, M-J 1978
1440 Milk, whole		TLC GC/MS GC-EC	57	Trace - 0.05 ppm	< 0.01 ppm	28.1% positive samples Samples from lactating women in selected areas of Arkansas and Mississippi. PESTICIDES; ADIPOSE TISSUE; MILK; URINE; BIOACCUMULATION; BIPHENYL COMPOUNDS; CHLORINATED HYDROCARBONS; ARKANSAS; MISSISSIPPI	Kutz, F.W. Strassman, S.C. Yobs, A.R. 1977
1441 Milk, whole		GC-EC	155	0.005-0.021 ppm	Not given	Portuguese women. Dieldrin detected in 11 cases. Samples taken in 1972. PESTICIDES; DDT; DDE; DIELDRIN; MILK; PORTUGAL	Graca, I. Fernandes, A.M.S.S. Mourao, H.C. 1974
1442 Placenta		CC GC-EC	19	Not given	0.8026 ppm	In extracted lipids. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DDT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977
1443 Uterus		CC GC-EC	7	Not given	0.5444 ppm	In extracted lipids of uterine muscle. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DDT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977

1alphaH,5alphaH-Tropan-3alpha-ol, 6beta,7beta-epoxy-, (-)-tropate (ester) (8 CI)
Benzeneacetic acid, alpha-(hydroxymethyl)-, 9-methyl-3-oxa-9-azatricyclo(3.3.1.0(2,4))non-7-yl ester, (7(S)-(1alpha,2beta,4beta,5alpha,7beta))- (9 CI)
51-34-3
C17-H21-N-04
MW 303.35, MP 59 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1444 Blood, plasma	Ingestion		7	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 1.8 ng/ml b) 2.5 ng/ml c) 1.2 ng/ml d) 0.4 ng/ml e) 0.28 ng/ml f) 0.09 ng/ml	a) 30 min b) 1 hr c) 1.75 hr d) 3 hr e) 4 hr f) 6 hr 906-ug dose. DRUGS; ALKALOIDS; URINE; BLOOD	Chandrasekaran, S.K. Bayne, W. Shaw, J.E. 1978
1445 Urine	Dermal		7	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable g) Not applicable	a) 0.8 ug/hr b) 5 ug/hr c) 11 ug/hr d) 7 ug/hr e) 6 ug/hr f) 0.9 ug/hr g) 0.3 ug/hr	a) 2 hr b) 4 hr c) 7 hr d) 15 hr e) 24 hr f) 33 hr g) 48 hr Drug applied to skin for the first 24 hr. Excretory rates for a 20 ug/hr continuous intravenous infusion were 10-18 ug/hr, and for a 906 ug oral dose 2-18 ug/hr in the first 12 hr (4-5% of the total dose excreted). DRUGS: ALKALOIDS; URINE; BLOOD	Chandrasekaran, S.K. Bayne, W. Shaw, J.E. 1978

1alphaH,5alphaH-Tropane-2beta-carboxylic acid, 3beta-hydroxy-, benzoate (ester) (8 CI)
8-Azabicyclo[3.2.1]octane-2-carboxylic acid, 3-(benzoyloxy)-8-methyl-, [1R-(exo,exo)]- (9 CI)
519-09-5
C16-H19-N-04

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1846 Urine		RIA	15	0.03->1.00 ug/ml	Not given	Values are benzoylecgonine equivalents, representing combined concentrations of benzoylecgonine and cocaine. Positive tests out of 585 autopsy samples, none previously contained metabolites. In 14 cases there was correlation with other drugs of abuse or violent death. DRUGS; ALKALOIDS; URINE; METABOLITES	Harris, S.C. Hamilton, N.E. Wallace, J.E. 1979

1alphaH,5alphaH-Tropane-2beta-carboxylic acid, 3beta-hydroxy-, methyl ester, benzoate (ester) (8 CI)
8-Azabicyclo[3.2.1]octane-2-carboxylic acid, 3-(benzoyloxy)-8-methyl-, methyl ester, (1R-(exo,exo))- (9 CI)
50-36-2
C17-H21-N-O4
MW 303.35, MP 98 C, BP 187-188 C at 0.1 mm Hg

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1487 Bile	Injection	GC	1	Not applicable	37.3 mg/l	Also detected were the cocaine metabolites - benzoylecgonine, hydroxycocaine, methylecgonine, methylecgonidine, and norcocaine (N-demethylcocaine). Autopsy of 19 yr old white male heroin addict after acute overdose. DRUGS; ALKALOIDS; DRUG ABUSE; CASE HISTORIES; BLOOD; URINE; KIDNEYS; LIVER; BILE; EYE; METABOLITES	Lowry, W.T. Lomonte, J.N. Hatchett, D. Garriott, J.C. 1979
1488 Blood			1	Not applicable	0.21 mg/l	Death, phencyclidine also present (0.1 mg/l) Cases investigated by the Maryland Medical Examiner in 1976 and 1977 in which phencyclidine was found: 36 whites, 1 black, 32 males, 5 females, age range, 16 to 42 yr. Causes of death included gunshot wounds, smoke and soot inhalation, drowning, drug intoxication. DRUGS; ALCOHOLS; DIAZEPAMS; CARBON INORGANIC COMPOUNDS; NARCOTICS; SEDATIVES; BLOOD; URINE; BILE; BRAIN; LIVER; KIDNEYS; DRUG ABUSE; AUTOPSIES; CASE HISTORIES; MARYLAND	Caplan, Y.H. Orloff, K.G. Thompson, B.C. Fisher, R.S. 1979

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1alphaH,5alphaH-Tropane-2beta-carboxylic acid, 3beta-hydroxy-, methyl ester, benzoate (ester) (8 CI)
8-Azabicyclo(3.2.1)octane-2-carboxylic acid, 3-(benzoyloxy)-8-methyl-, methyl ester, (1R-(exo,exo))- (9 CI)
50-36-2
C17-H21-N-04
MW 303.35, MP 98 C, BP 187-188 C at 0.1 mm Hg

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1949 Blood		GC	a) 4 b) 6 c) 3	a) 0.70-1.28 mg/dl b) 0.04-1.10 mg/dl c) 0.03-1.10 mg/dl	a) 0.92 mg/dl b) 0.36 mg/dl c) 0.44 mg/dl	a) Deaths after oral ingestion of cocaine b) Deaths after intravenous injection of cocaine c) Deaths after nasal ingestion of cocaine Persons autopsied by the Dade County Medical Examiner' Office between Jan. 1, 1969, and June 30, 1978, who died from drug overdose. Some became comatose, some had terminal seizures. DRUGS; BLOOD; FLORIDA	Wetli, C.V. Wright, R.K. 1979
1950 Blood, plasma	Inhalation	GC	a) 9 b) 9 c) 9 d) 4 e) 4 f) 4	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable	a) 3.7 ng/ml b) 308.4 ng/ml c) 132.0 ng/ml d) 1.8 ng/ml e) 147.6 ng/ml f) 59.4 ng/ml	a) Post-application, cardiovascular patients (CV) b) 60 min after application, CV (peak level) c) 220 min after application, CV d) Post-application, dental patients (D) e) 60 min after application, D(peak level) f) 360 min after application, D Cocaine applied prior to nasal intubation as a vasoconstrictor. Patients later given other drugs that seemed to alter cocaine effects. Samples from patients undergoing dental surgery, mean age 33.2 yr and mean wt of 66.5 kg. Samples from patients undergoing cardiovascular surgery, mean age 52.1 yr and mean wt of 76.1 kg. Cocaine found on the nasal mucosa for 3 hr after application. 2.5 hr (in dental patients) DRUGS; BLOOD PLASMA; SURGERY	Van Dyke, C. Barash, P.G. Jatlow, P. Byck, R. 1976
1951 Blood, whole	Injection	GC	1	Not applicable	3.7 mg/l	Autopsy of 19 yr old white male heroin addict after overdose. DRUGS; ALKALOIDS; DRUG ABUSE; CASE HISTORIES; BLOOD; URINE; KIDNEYS; LIVER; BILE; EYE; METABOLITES	Lowry, W.T. Lomonte, J.N. Hatchett, D. Garriott, J.C. 1979

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1alphaH,5alphaH-Tropane-2beta-carboxylic acid, 3beta-hydroxy-, methyl ester, benzoate (ester) (8 CI)
8-Azabicyclo[3.2.1]octane-2-carboxylic acid, 3-(benzoyloxy)-8-methyl-, methyl ester, (1R-(exo,exo))- (9 CI)
50-36-2
C17-H21-N-O4
MW 303.35, MP 98 C, BP 187-188 C at 0.1 mm Hg

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1452 Eye	Injection	GC	1	Not applicable	2.1 mg/l	Concentration in vitreous humor Autopsy of 19 yr old white male heroin addict after acute overdose. DRUGS; ALKALOIDS; DRUG ABUSE; CASE HISTORIES; BLOOD; URINE; KIDNEYS; LIVER; BILE; EYE; METABOLITES	Lowry, W.T. Lomonte, J.N. Hatchett, D. Garriott, J.C. 1979
1453 Kidney	Injection	GC	1	Not applicable	10.2 mg/kg	Autopsy of a 19 yr old white male heroin addict after acute overdose. DRUGS; ALKALOIDS; DRUG ABUSE; CASE HISTORIES; BLOOD; URINE; KIDNEYS; LIVER; BILE; EYE; METABOLITES	Lowry, W.T. Lomonte, J.N. Hatchett, D. Garriott, J.C. 1979
1454 Liver	Injection	GC	1	Not applicable	6.8 mg/kg	Autopsy of a 19 yr old white male heroin addict after acute overdose. DRUGS; ALKALOIDS; DRUG ABUSE; CASE HISTORIES; BLOOD; URINE; KIDNEYS; LIVER; BILE; EYE; METABOLITES	Lowry, W.T. Lomonte, J.N. Hatchett, D. Garriott, J.C. 1979
1455 Urine	Injection	GC	1	Not applicable	55.8 mg/l	Small amounts of the metabolites benzoylecgonine, hydroxycocaine, methylecgonine, and norcocaine were also detected. Autopsy of 19 yr old white male heroin addict after acute overdose. DRUGS; ALKALOIDS; DRUG ABUSE; CASE HISTORIES; BLOOD; URINE; KIDNEYS; LIVER; BILE; EYE; METABOLITES	Lowry, W.T. Lomonte, J.N. Hatchett, D. Garriott, J.C. 1979

1H-2,5-Benzoxazocine, 3,4,5,6-tetrahydro-5-methyl-1-phenyl- (VAN)
13669-70-0
C17-H19-N-O
MW 253.35

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1456 Blood, plasma	Ingestion	GC		a) Not applicable b) Not applicable	a) 99 ng/ml b) 20 ng/ml	a) Peak value at 1.5 hr b) 12 hr Values estimated from graph More data available. Healthy subject given 60 mg of nefopam hydrochloride BLOOD PLASMA; DRUGS; MEASUREMENT METHODS	Schuppan, D. Hansen, C.S. Ober, R.E. 1978

17alpha-Pregna-2,4-dien-20-yno(2,3-d)isoxazol-17-ol (8 CI)
Pregna-2,4-dien-20-yno(2,3-d)isoxazol-17-ol, (17alpha)- (9 CI)
17230-88-5
C22-H27-N-O2
MW 337.47, MP 224.4-226.8

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1457 Blood	Ingestion	RIA	10	a) Not given b) Not given c) Not given d) Not given	a) 40 ng/ml b) 82 ng/ml c) 41 ng/ml d) 25 ng/ml	a) 1 hr b) 4 hr c) 12 hr d) 24 hr Concentrations after a single 200 mg dose. 14.7 hr DRUGS; STEROIDS; PREGNENOLONES; BLOOD PLASMA; MEASUREMENT METHODS	Peterson, J.E. King, M.E. Banks, W.F. Baker, J.F. Jensen, A.F. Ross, R.W. Clemans, S. Edelson, J. 1978

19-Nor-17alpha-pregn-4-en-20-yn-3-one, 17-hydroxy- (8 CI)
19-Norpregn-4-en-20-yn-3-one, 17-hydroxy-, (17alpha)- (9 CI)
68-22-4
C20-H26-O2

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1458 Blood, plasma	Ingestion	GC/MS	5	a) 9-27 ng/ml b) 1-9 ng/ml c) 0 d) <2 ng/ml e) 4-24 ng/ml f) 2-11 ng/ml g) <2 ng/ml h) 3-14 ng/ml i) 0-4 ng/ml	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) Unconjugated norethindrone (NE) b) Sulfate conjugated NE c) Glucuronide conjugated NE d) Unconjugated metabolite, 17alpha-ethynyl-5beta-estrane-3alpha, 17beta-diol e) Sulfate conjugated metabolite as in (d) f) Glucuronide conjugated metabolite as in (d) g) Unconjugated metabolite, 17alpha-ethynyl-5alpha-estrane-3alpha , 17beta-diol h) Sulfate conjugated metabolite as in (g) i) Glucuronide conjugated metabolite as in (g) Peak levels 3 or 8-12 hr after daily dose of 2.5 mg or 2.0 mg. Healthy female volunteers age 20-37 yr. DRUGS; BLOOD PLASMA; BIOACCUMULATION; METABOLITES	Braselton, W.E., Jr. Lin, T.J. Ellegood, J.O. Mills, T.M. Mahesh, V.B. 1979

2-Butanol, 4-(dimethylamino)-3-methyl-1,2-diphenyl-, propionate (ester), (2S,3R)- (8 CI)
Benzeneethanol, alpha-(2-(dimethylamino)-1-methylethyl)-alpha-phenyl-, propanoate (ester), (S-(R*,S*))- (9 CI)
469-62-5
C22-H29-N-O2

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1459 Blood		GC	5	1-11 ug/ml	5.2 ug/ml	Samples of blood, liver and urine from fatal intoxications were collected at autopsy. AUTOPSIES; BLOOD; URINE; LIVER; DRUGS	Norheim, G. 1976
1460 Liver		GC	6	14-108 ug/g	55.8 ug/g	Samples of blood, liver and urine from fatal intoxications were collected at autopsy. AUTOPSIES; BLOOD; URINE; LIVER; DRUGS	Norheim, G. 1976
1461 Urine		GC	4	8-81 ug/ml	28.5 ug/ml	Samples of blood, liver and urine from fatal intoxications were collected at autopsy. AUTOPSIES; BLOOD; URINE; LIVER; DRUGS	Norheim, G. 1976

2-Imidazoline, 2-(2,6-dichloroanilino)- (9 CI)
Benzenamine, 2,6-dichloro-N-2-imidazolidinylidene- (9 CI)
8205-90-7
C9-H9-C12-N3

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1462 Blood, plasma	Ingestion	GC-EC	7	a) Not applicable b) Not applicable c) Not applicable	a) 0.58 ng/ml b) 0.29 ng/ml c) 0.13 ng/ml	a) Dose 200 ug, peak level at 3 hr (<0.1 ng/ml at 1 hr and <0.2 ng/ml at 24 hr) b) Dose 100 ug, peak level at 3 hr (0.2 ng/ml at 1 hr and 0.05 ng/ml at 24 hr) c) Dose 50 ug, peak level at 2 hr (0.05 ng/ml at 1 hr and 0.08 ng/ml at 12 hr) DRUGS; MEASUREMENT METHODS; BLOOD PLASMA	Chu, I.-C. Bayne, W.F. Tao, P.T. Schnitt, L.G. Shaw, J.E. 1979

2-Propanol, 1-(isopropylamino)-3-(1-naphthyloxy)- (8 CI)
2-Propanol, 1-((1-methylethyl)amino)-3-(1-naphthalenyloxy)- (9 CI)
525-66-6
C16-H21-N-O2, MW 259.19, MI 96.6

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1463 Blood, serum	Ingestion	Fluorometry GC-MC	6	2.3-8.5 ng/ml	Not given	90-120 min after the last of 5 8-hourly doses (GC results). Simultaneous fluorometric tests indicated no measurable levels in 4 cases and only trace levels in 2. Healthy adults aged 26-37. DRUGS; BLOOD SERUM; MEASUREMENT METHODS	Davies, B. Morganti, A. Morselli, P.L. Pickering, T.G. Bianchetti, G. Pomankiewicz, J. Laragh, J.H. 1978

2-Propanol, 1-(o-(allyloxy)phenoxy)-3-(isopropylamino)- (8 CI)
2-Propanol, 1-([1-methylethyl)amino)-3-(2-(2-propenyloxy)phenoxy)- (9 CI)
6452-71-7
C15-H23-N-O3

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1464 Blood		GC	1	Not applicable	30.0 mg/l	2 other drugs also present. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, H. Holder, A.T. Powell, R. 1979

2-Propanol, 1-(o-allylphenoxy)-3-(isopropylamino)- (8 CI)
2-Propanol, 1-[(1-methylethyl)amino]-3-(2-(2-propenyl)phenoxy)- (9 CI)
13655-52-2
C15-H23-N-O2

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1465 Blood, whole	Ingestion	GC/MS TLC	a) 1 b) 1	a) Not given b) 39-43 ug/ml	a) 40 ug/ml b) 41 ug/ml	a) Case 1 b) Case 2 (results from 2 laboratories). Autopsy of 42 yr old woman revealed approximately 40 100-mg Aptin tablets. Autopsy of 42 yr old woman showed 111 200-mg Aptin tablets. DRUGS; AUTOPSIES; BLOOD; LIVER; ALCOHOLS; DRUG ABUSE	Dickson, S.J. Muirhead, J.M. Nelson, P.E. 1978
1466 Liver	Ingestion	GC/MS TLC	a) 1 b) 1 c) 1 d) 1	a) 72-91 ug/g b) Not given c) 160-187 ug/g d) 201-252 ug/g	a) 81.5 ug/g b) 23 ug/g c) 173.5 ug/g d) 226.5 ug/g	a) Case 1 - Tungstic acid extraction method, pH 2 b) Case 2 - Tungstic acid extraction method, pH 5 c) Case 2 - Strong HCl extraction method d) Case 2 - Mild HCl extraction method HCl digest results higher because of metabolic contributions. Autopsy of 42 yr old woman revealed approximately 40 100-mg Aptin tablets. DRUGS; AUTOPSIES; BLOOD; LIVER; ALCOHOLS; DRUG ABUSE	Dickson, S.J. Muirhead, J.M. Nelson, P.E. 1978

2-Propanol, 1-(tert-butylamino)-3-[[4-morpholino-1,2,5-thiadiazol-3-yl]oxy]-, (S)-(-)- (8 CI)
2-Propanol, 1-[(1,1-dimethylethyl)amino]-3-[[4-(4-morpholinyl)-1,2,5-thiadiazol-3-yl]oxy]-, (S)- (9 CI)
26839-75-8
C13-H24-N4-O3-S

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1867 Blood, plasma	Ingestion Injection	GC	5	a) Not given b) Not given c) Not given d) Not given	a) 17.0 ug/l b) 26.0 ug/l c) 15.0 ug/l d) 9.2 ug/l	a) 0.75 hr after oral administration b) 1.5 hr after oral administration c) 4 hr after oral administration d) 6 hr after oral administration 0.1 mg/kg of Timolol was administered. Three female and 2 male volunteers, 22-35 yr, 52-85 kg. Approximately 2.5 hr DRUGS; BLOOD PLASMA	Vermeij, P. el Sherbini-Schepers, M. van Zwieten, P.A. 1978

2-Pyrrolidinone, 1-vinyl-, polymers, compd. with iodine (8 CI)
2-Pyrrolidinone, 1-ethenyl-, homopolymer, compd. with iodine (9 CI)
25655-41-8
(C6-H9-N-O)x-,x-I2

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1468 Blood	Dermal		1	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) 240 ug/dl b) 825 ug/dl c) 585 ug/dl d) 4-8 ug/dl	a) Protein-bound b) Total concentration c) Inorganic form d) Normal protein-bound level Excessive uptake of iodine following wound irrigation with 10% povidone-iodine solution resulted in extreme iodermia. 57 year old male. Skin pustules, lesions, hemorrhagic vesicles and small bullae on arms, face and thighs. DRUGS; IODINE; DERMATITIS;	Bishop, M.E. Garcia, R.L. 1978

2,4-Piperidinedione, 3,3-diethyl-5-methyl-
125-64-4
C10-H17-N-O2

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1469 Blood, plasma	Ingestion	GC	1	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable g) Not applicable h) Not applicable	a) 168 ug/ml b) 143 ug/ml c) 115 ug/ml d) 120 ug/ml e) 72 ug/ml f) 77 ug/ml g) 40 ug/ml h) 53 ug/ml	a) 0 hr, first sample taken an unknown time after a 30 g overdose (parent drug) b) Same as (a), level of metabolite, 2,4-dioxo-3,3-diethyl-5-methyl-1,2,3,4-tetrahydropyridine c) 18.75 hr, 1 hr after start of a 5 hr dialysis treatment (parent drug) d) Same as (c), metabolite level e) 18.75 hr, after 5th hr of dialysis (parent drug) f) Same as (e) for metabolite g) 29 hr, parent drug h) 29 hr, metabolite Adult male (28 yr old, weight 69 kg) victim of drug overdose. 50 hr DRUGS; SEDATIVES; HYPNOTICS; METABOLITES; BLOOD PLASMA; URINE; CASE HISTORIES; DRUG ABUSE; MEASUREMENT METHODS	Bridges, B.B. Peat, M.B. 1979

2',6'-Acetoxylidide, 2-(diethylamino)- (8 CI)
Acetamide, 2-(diethylamino)-N-(2,6-dimethylphenyl)- (9 CI)
137-58-6
C14-H22-N2-O

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1470 Blood		GC	3	0.08-0.96 mg/dl	0.41 mg/dl	Deaths attributed to acute cocainism. Lidocaine not implicated in death. Samples from persons autopsied by the Dade County Medical Examiner' office between Jan. 1, 1969, and June 30, 1978, who died from drug overdose. Some became comatose, some had terminal seizures. DRUGS; BLOOD; FLORIDA	Wetli, C.V. Wright, R.K. 1979

2H-1,3,2-Oxazaphosphorine, 2-(bis(2-chloroethyl)amino)tetrahydro-, 2-oxide (8 CI)
2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide (9 CI)
50-18-0
C7-H15-Cl2-N2-O2-P

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1471 Urine	Ingestion	MS	a) 4 b) 4 c) 4	a) 39-76 mg/24 hr b) 52-72 mg/24 hr c) 68-105 mg/24 hr	a) 51.5 mg/24 hr b) 62.5 mg/24 hr c) 84.5 mg/24 hr	a) After racemic (+ and -) drug administration b) After (+) enantiomer administration c) After (-) enantiomer administration 4 patients with squamous cell carcinoma of the lung, mean age 61 yr (54-68 yr). DRUGS; URINE; COMPARATIVE EVALUATIONS; METABOLISM; NEOPLASMS	Jarman, M. Milsted, R.A.V. Smyth, J.F. Kinas, R.W. Pankiewicz, K. Stec, W.J. 1979

2H-1,4-Benzodiazepin-2-one, 5-(o-chlorophenyl)-1,3-dihydro-7-nitro- (8 CI)
2H-1,4-Benzodiazepin-2-one, 5-(2-chlorophenyl)-1,3-dihydro-7-nitro- (9 CI)
1622-61-3
C15-H10-Cl-N3-O3
MW 315.72, MP 236.5-238.5 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1472 Blood, serum	Ingestion	GC-EC	a) 28 b) 89 c) 90 d) 57 e) 35 f) 25 g) 14 h) 8 i) 3 j) 6 k) 3 l) 2 m) 18	a) 0 b) 0-6 ng/ml c) 6-12 ng/ml d) 12-18 ng/ml e) 18-24 ng/ml f) 24-30 ng/ml g) 30-36 ng/ml h) 36-42 ng/ml i) 42-48 ng/ml j) 48-54 ng/ml k) 54-60 ng/ml l) 60-72 ng/ml m) > 72 ng/ml	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given k) Not given l) Not given m) Not given	Groups of data, a)-m) from bar graph of frequency distribution 51% of 328 observations fell below 12 ng/ml, the lower limit of acceptable drug response at recommended dosages. Samples from epileptic patients receiving Clonazepam. DRUGS; BLOOD SERUM; ANTICONVULSANTS; MEASUREMENT METHODS	Solow, E.B. Kenfield, C.P. 1978

2H-1,4-Benzodiazepin-2-one, 7-chloro-1-(2-(diethylamino)ethyl)-5-(o-fluorophenyl)-1,3-dihydro- (9 CI)
2H-1,4-Benzodiazepin-2-one, 7-chloro-1-(2-(diethylamino)ethyl)-5-(2-fluorophenyl)-1,3-dihydro- (9 CI)
17617-23-1
C21-H23-Cl-F-N3-O

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1973 Bile		GC	1	Not applicable	64.4 mg/l	Amitriptyline also present. Samples from coroners' autopsies from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, H. Holder, A.T. Powell, R. 1979
1974 Blood		GC	1	a) Not applicable b) Not applicable	a) 11.1 mg/l b) 18.2 mg/l	a) Peripheral blood b) liver blood Amitriptylene also present. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, H. Holder, A.T. Powell, R. 1979

2H-1,4-Benzodiazepin-2-one, 7-chloro-1,3-dihydro-1-methyl-5-phenyl-
439-14-5
C16-H13-Cl-N2-O
MW 284.76, MP 125-126 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1475 Bile		GC	1	Not applicable	2.4 mg/l	3 other drugs also present. Diazepam at therapeutic levels. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, R. 1979
1476 Blood	Ingestion	GC-MC	6	a) 152-255 ng/ml b) 106-373 ng/ml	a) 221 ng/ml b) 207 ng/ml	a) Without alcohol, peak at 0.79 hr b) With 1.5 oz. of ethanol, peak at 1.8 hr 5 mg dose. Alcohol slowed absorption, did not affect total uptake. Healthy volunteers (4 male and 2 female) aged 25-42 yr. DRUGS; SEDATIVES; BENZODIAZEPINES; DIAZEPAMS; ALCOHOLS	Greenblatt, D.J. Shader, R.I. Weinberger, D.E. Allen, M.D. MacLaughlin, D.S. 1978
1477 Blood			2	Trace-0.2 mg/l	Not given	Deaths in which phencyclidine was also present in the blood Cases investigated by the Maryland Medical Examiner in 1976 and 1977 in which phencyclidine was found: 36 whites, 1 black, 32 males, 5 females, age range, 16 to 42 yr. Causes of death included gunshot wounds, smoke and soot inhalation, drowning, drug intoxication. DRUGS; ALCOHOLS; DIAZEPAMS; CARBON INORGANIC COMPOUNDS; NARCOTICS; SEDATIVES; BLOOD; URINE; BILE; BRAIN; LIVER; KIDNEYS; DRUG ABUSE; AUTOPSIES; CASE HISTORIES; MARYLAND	Caplan, Y.H. Orloff, K.G. Thompson, B.C. Fisher, R.S. 1979
1478 Blood		GC	1	a) Not applicable b) Not applicable	a) 0.6 mg/l b) 1.2 mg/l	a) Peripheral blood B) liver blood 3 other drugs also present Diazepam at therapeutic levels. Samples from coroners' autopsies from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, R. 1979

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2H-1,4-Benzodiazepin-2-one, 7-chloro-1,3-dihydro-1-methyl-5-phenyl-
439-14-5
C16-H13-Cl-N2-O
MW 284.76, MP 125-126 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1479 Blood	Ingestion	GC-EC	328	a) Not given b) Not given c) Not given	a) 100 ng/ml b) 180 ng/ml c) 350 ng/ml	a) Dose = 6 mg/day b) Dose = 10 mg/day c) Dose = 20 mg/day Approximate steady-state serum levels based on statistical analysis of data. Samples from hospitalized patients DRUGS; ANTIDEPRESSIVE AGENTS; PSYCHOTROPIC DRUGS; BLOOD SERUM; MEASUREMENT METHODS	Tanja, J.J. Clark, C.R. Griffies, D.E. 1978
1480 Blood, plasma	Ingestion	RIA	1	Not given	72 ng/ml	Peak value 2 hours after administration of 5 mg dose Sample from normal volunteer DRUGS; BLOOD; SALIVA; DIAZEPAMS; MEASUREMENT METHODS	Dixon, R. Crews, T. 1978
1481 Blood, plasma	Rectal Injection	GC	a) 3 b) 3 c) 3	a) 100-750 ng/ml b) 100-1400 ng/ml c) 270-1300 ng/ml	a) Not given b) Not given c) Not given	a) Parenteral rectal injection 0.5 mg/kg dose b) Intramuscular injection - 1.0 mg/kg dose c) Parenteral rectal injection - 1.0 mg/kg dose Range in levels over 4 hr. Children (3-12 yr old) sedated prior to preoral intestinal biopsy. DRUGS; SEDATIVES; ANTICONVULSANTS; BLOOD PLASMA; METABOLITES	Meberg, A. Langslet, A. Predesen, J.F. Lunde, P.K.M. 1978

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2H-1,4-Benzodiazepin-2-one, 7-chloro-1,3-dihydro-1-methyl-5-phenyl-
439-14-5
C16-H13-Cl-N2-O
MW 284.76, MP 125-126 C

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1482 Blood, plasma	Ingestion	GC-EC	2	a) Not applicable b) Not applicable c) Not applicable	a) 4.3 ug/ml b) 0.14 ug/ml c) 19 ug/ml d) 0.003 ug/ml	a) Overdose patient 1, 0.5 days after ingestion b) Overdose patient 1, 11.5 days after ingestion c) Overdose patient 2, 0.5 days after admission d) Overdose patient 2, 9.5 days after admission Values estimated from graph. 61 yr old woman who ingested 450-500 mg diazepam, 28 yr old man who ingested 2000 mg diazepam. 57 hr, 17 hr DIAZEPAMS; DRUGS; CASE HISTORIES; BLOOD PLASMA	Greenblatt, D.J. Woo, E. Allen, M.D. Orsulak, D.J. Shader, R.I. 1978
1483 Liver		GC	1	Not applicable	1 ug/g	Samples of blood, liver and urine from fatal intoxications were collected at autopsy. AUTOPSIES; BLOOD; URINE; LIVER; DRUGS	Norheim, G. 1976
1484 Saliva	Ingestion	RIA	1	Not given	1.85 mg/ml	Peak value 2 hours after administration of 5 mg dose Sample from normal volunteer DRUGS; BLOOD; SALIVA; DIAZEPAMS; MEASUREMENT METHODS	Dixon, R. Crews, T. 1978

2H-1,4-Benzodiazepin-2-one, 7-chloro-1,3-dihydro-3-hydroxy-1-methyl-5-phenyl-
846-50-4
C16-H13-Cl-N2-O2

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1485 Blood, plasma		GC-EC	2	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) 0.2 ug/ml b) 0.085 ug/ml c) 2.7 ug/ml d) 1.1 mg/ml	a) Overdose patient 1, 0.5 days after ingestion of diazepam b) Overdose patient 1, 4.5 days after ingestion of diazepam c) Overdose patient 2, 0.5 days after ingestion of diazepam d) Overdose patient 2, 2.5 days after ingestion of diazepam Values estimated from graph. 61 yr old woman who ingested 450-500 mg diazepam, 28 yr old man who ingested 2000 mg diazepam. DIAZEPAMS; DRUGS; CASE HISTORIES; BLOOD PLASMA	Greenblatt, D.J. Woo, E. Allen, M.D. Orsulak, D.J. Shader, R.I. 1978

2H-1,4-Benzodiazepin-2-one, 7-chloro-1,3-dihydro-3-hydroxy-5-phenyl-
604-75-1
C15-H11-Cl-N2-O2

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1486 Blood, plasma		GC-EC	2	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) 0.18 ug/ml b) 0.05 ug/ml c) 1.2 ug/ml d) 0.012 ug/ml	a) Overdose patient 1, peak value, 1.5 days after ingestion of diazepam b) Overdose patient 1, 13.5 days after ingestion of diazepam c) Overdose patient 2, peak value, 3 days after ingestion of diazepam d) Overdose patient 2, 9.5 days after ingestion of diazepam Values estimated from graph. 61 yr old woman who ingested 450-500 mg diazepam, 28 yr old man who ingested 2000 mg diazepam. DIAZEPAMS; DRUGS; CASE HISTORIES; BLOOD PLASMA	Greenblatt, D.J. Woo, E. Allen, M.D. Orsulak, D.J. Shader, R.I. 1978

2H-1,4-Benzodiazepin-2-one, 7-chloro-1,3-dihydro-5-phenyl-
1088-11-5
C15-H11-Cl-N2-O

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1487 Blood, plasma		GC-EC	2	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) 1.8 ug/ml b) 0.4 ug/ml c) 0.9 ug/ml d) 0.03 ug/ml	a) Overdose patient 1, peak value, 4.5 days after ingestion of diazepam b) Overdose patient 1, 11.5 days after ingestion of diazepam c) Overdose patient 2, peak value, 3 days after ingestion of diazepam d) Overdose patient 2, 13 days after ingestion of diazepam Values estimated from graph. 61 yr old woman who ingested 450-500 mg diapenam, 28 yr old man who ingested 2000 mg diazepam. DIAZEPAMS; DRUGS; CASE HISTORIES; BLOOD PLASMA	Greenblatt, D.J. Woo, E. Allen, M.D. Orsulak, D.J. Shader, R.I. 1978

2H-1,4-Benzodiazepin-2-one, 7-chloro-5-(o-fluorophenyl)-1,3-dihydro-1-methyl- (8 CI)
2H-1,4-Benzodiazepin-2-one, 7-chloro-5-(2-fluorophenyl)-1,3-dihydro-1-methyl- (9 CI)
3900-31-0
C16-H12-Cl-F-N2-O
MW 302

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
148P Blood, serum	Ingestion	GC-EC	6	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 8.8 ng/ml b) 8.7 ng/ml c) 6.9 ng/ml d) 4.7 ng/ml e) 3.2 ug/ml	a) 1 hr b) 2 hr c) 4 hr d) 48 hr e) 72 hr Mean concentration following 0.5 mg dose. Japanese students aged 23-25 yr. Peak latencies of the photopalpebral reflex were significantly prolonged (maximum at 3 hr). DRUGS; BENZODIAZEPINES; PSYCHOTROPIC DRUGS; BLOOD; BLOOD SERUM; NEUROLOGIC MANIFESTATIONS; SEDATIVES; JAPAN	Tanaka, M. Isoazaki, H. Inanaga, K. Ogawa, N. 1978

3-Heptanone, 6-(dimethylamino)-4,4-diphenyl-
76-99-3
C21-H27-N-O

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1389 Blood			3	0.1-1.4 mg/l	0.67 mg/l	Deaths, phencyclidine also present in blood Cases investigated by the Maryland Medical Examiner in 1976 and 1977 in which phencyclidine was found: 36 whites, 7 black, 32 males, 5 females, age range, 16 to 42 yr. Causes of death included gunshot wounds, smoke and soot inhalation, drowning, drug intoxication. DRUGS; ALCOHOLS; DIAZEPAMS; CARBON INORGANIC COMPOUNDS; NARCOTICS; SEDATIVES; BLOOD; URINE; BILE; BRAIN; LIVER; KIDNEYS; DRUG ABUSE; AUTOPSIES; CASE HISTORIES; MARYLAND	Caplan, Y.H. Orloff, K.G. Thompson, B.C. Fisher, R.S. 1979

3,5-Pyrazolidinedione, 4-butyl-1,2-diphenyl-
50-33-9
C19-H20-N2-O2
MW 308.37, MP 105 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
Man Blood, plasma	Ingestion	GC-MC	6	a) Not given b) Not given c) Not given d) Not given	a) 31 ug/ml b) 24 ug/ml c) 14 ug/ml d) 7 ug/ml	a) 3 hr b) 24 hr c) 72 hr d) 168 hr Average concentrations following 300 mg dose. 68.5 hr DRUGS; PHENYLBUTAZONES; ANTI-INFLAMMATORY ANALGESICS; BLOOD; BLOOD PLASMA	Sioufi, A. Caudal, P. Marfil, P. 1979

3H-1,4-Benzodiazepine, 7-chloro-2-(methylamino)-5-phenyl-, 4-oxide (8 CI)
3H-1,4-Benzodiazepin-2-amine, 7-chloro-N-methyl-5-phenyl-, 4-oxide (9 CI)
58-25-3
C16-H14-Cl-N3-O

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1891 Bile		GC	1	Not applicable	4.7 mg/l	Amitriptyline also present. Death probably due to CNS depression caused by the two drugs. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, H. 1979
1892 Blood		GC	1	a) Not applicable b) Not applicable	a) 4.7 mg/l b) 1.5 mg/l	a) Peripheral blood b) liver blood amitriptyline also present Death probably due to CNS depression caused by the two drugs. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, H. 1979
1893 Urine		GC	1	Not applicable	0.7 mg/l	Amitriptyline also present. Death probably due to CNS depression caused by the two drugs. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, H. 1979

4(1H)-Quinazolinone, 2-methyl-3-o-tolyl- (8 CI)
4(3H)-Quinazolinone, 2-methyl-3-(2-methylphenyl)- (9 CI)
72-44-6
C16-H14-N2-O
MW 250.29, MP 120 C, also given as 118-116 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1494 Blood	Ingestion	GC/MS Colorimetry	1	Not applicable	2 mg/l	Autopsy specimen of 24 yr old white male who died of an overdose of 3,4-methylenedioxyamphetamine. Profuse sweating, irrational speech, muscle spasms, coma, death. Epicardial, subendocardial, gastric, and subpleural petachiae. DRUGS; DRUG ABUSE; BLOOD; URINE; CASE HISTORIES; MISSOURI	Poklis, A. Mackell, M.A. Drake, W.F. 1979
1495 Blood	Ingestion	Colorimetry	1	a) Not applicable b) Not applicable c) Not applicable d) Not applicable d) Not applicable e) Not applicable f) Not applicable g) Not applicable	a) 26.5 ug/ml b) 16.5 ug/ml c) 8.6 ug/ml d) 6.6 ug/ml e) 6.2 ug/ml f) 4.9 ug/ml g) 3.1 ug/ml	a) 0 hr b) 24.5 hr c) 48 hr d) 56.75 hr e) 65 hr f) 73 hr g) 91.2 hr Levels are for unchanged drug and unconjugated metabolite, 2-methyl-3[2-(hydroxymethyl)phenyl]-4(3H)-quinazolinone. 0 hr is admission to hospital 4-6 hr after ingestion of unknown amount. 65 yr old white female with history of alcoholism. DRUGS; METABOLITES; BLOOD; URINE; DRUG ABUSE; CASE HISTORIES	Fazyak, I. Anthony, R.M. Sunshine, I. 1979
1496 Blood, plasma	Ingestion	Fluorometry	11	a) Not given b) Not given	a) 3.97 ug/ml b) 3.70 ug/ml	a) 3.82 hr b) 3.36 hr Average peak concentration following 303-308 mg dose for tablets having different IN VITRO dissolution rates. DRUGS; SEDATIVES; BLOOD; BLOOD PLASMA	Stoll, F.G. Chao, G.C. Hoyt, H.J. Yacobi, A. 1978

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4(3H)-Quinazolinone, 2-methyl-3-o-tolyl- (9 CI)
4(3H)-Quinazolinone, 2-methyl-3-(2-methylphenyl)- (9 CI)
72-44-6
C16-H14-N2-O
MW 250.29, MP 120 C, also given as 114-116 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1497 Urine	Ingestion	TLC GC/MS	a) 8 b) 8	a) 11.7-22.9 mg b) 0.205-0.539 mg	a) 15.3 mg b) 0.281 mg	a) Methaqualone-N-oxide b) Methaqualone Amount excreted in 24 hr after a 250 mg dose. Healthy adults (1 female, 7 males), age 28-42 yr, weight 63-83 kg. DRUGS; HYPNOTICS; METABOLITES; URINE; UNITED KINGDOM	Reynolds, C.M. Wilson, K. Burnett, D. 1976
1498 Urine	Ingestion	Colorimetry	1	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable g) Not applicable h) Not applicable i) Not applicable	a) 16.7 ug/ml b) 32.1 ug/ml c) 2122.5 ug/ml d) 8.5 ug/ml e) 35.1 ug/ml f) 845.0 ug/ml g) 5.5 ug/ml h) 8.4 ug/ml i) 276.1 ug/ml	a) 5 hr (145 ml sample), unchanged compound (UC) b) 5 hr (145 ml sample), unconjugated metabolite (UM), 2-methyl-3-[2-(hydroxymethyl) phenyl]-4(3H)-quinazolinone c) 5 hr (145 ml sample), total for four conjugated quinazolinone metabolites (CM) d) 32 hr (685 ml/24 hr sample), UC e) 32 hr (685 ml/24 hr sample), UM f) 32 hr (685 ml/24 hr sample), CM g) 96 hr (160 ml/8.2 hr sample), UC h) 96 hr (160 ml/8.2 hr sample), UM i) 96 hr (160 ml/8.2 hr sample), CM 65 yr old white female victim of overdose. DRUGS; METABOLITES; BLOOD; URINE; DRUG ABUSE; CASE HISTORIES	Kazyak, L. Anthony, R.M. Sunshine, I. 1979

4-Thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, 6-[3-(2-chloro-6-fluorophenyl)-5-methyl-4-isoxazolecarboxamido]-3-, 3-dimethyl-7-oxo- (8 CI)
4-Thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, 6-[[[3-(2-chloro-6-fluorophenyl)-5-methyl-4-isoxazolyl]carbonyl]amino]-3,3-dimethyl-7-oxo-, [2S-[2alpha,5alpha,6beta]]- (9 CI)
*250-79-5
C19-H17-Cl-F-N3-O5-S

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1499 Blood, serum	Injection	Immunodiffusion	10	4.6-17.0 mg/l	8.9 mg/l	Weight-related doses ranged from 6.4-15.9 mg/kg. Patients, 67-87 (mean 69.4) yr, undergoing total hip replacement for osteoarthritis. DRUGS; BONES; BLOOD SERUM; UNITED KINGDOM	Unsworth, P.F. Heatley, F.W. Phillips, I. 1978
1500 Bone	Injection	Immunodiffusion	a) 10 b) 9 of 10	a) 0.3-2.2 mg/l b) 0.3-2.0 mg/l	a) 1.3 mg/l b) 0.9 mg/l	a) Trabecular b) Compact Values for washings. No detectable flucloxacillin in one patient's washings of compact bone. Blood contaminating the washings accounted for almost 26% of the flucloxacillin present. DRUGS; BONES; BLOOD SERUM; UNITED KINGDOM	Unsworth, P.F. Heatley, F.W. Phillips, I. 1978

4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, 6-[(carboxy-3-thienylacetyl)amino]-3,3-dimethyl-7-oxo-, [2S-[2alpha,5alpha,6beta(S*)]]-
34787-01-4
C15-H16-N2-O6-S2

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1501 Blood, serum	Injection	Microbiological	a) 29 b) 17 c) 26 d) 29	a) 29-420 ug/ml b) 0-220 ug/ml c) 0-530 ug/ml d) 0-100 ug/ml	a) 180.3 ug/ml b) 53.7 ug/ml c) 157.4 ug/ml d) 19.5 ug/ml	a) 1 hr, dosage 12 g ticarcillin disodium/sq m/day (average, 5 g/6 hr), 7 g cephalothin sodium/sq m/day (average, 3 g/6 hr) b) 5 hr, dosage same as a) c) 1 hr, dosage 12 g ticarcillin disodium/sq m/day (average 5 g/6 hr), 180 mg gentamicin sulfate/sq m/day (average 80 mg/6 hr) d) 5 hr, dosage same as c) Febrile patients with granulocytopenia and cancer. DRUGS; ANTIBIOTICS; BLOOD SERUM; MARYLAND; CASE HISTORIES; DRUG THERAPY	Murillo, J. Standiford, H.C. Schimpff, S.C. Tatem, B.A. 1979

4-Thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, 6-[2-amino-2-(p-hydroxyphenyl)acetamido]-3,3-dimethyl-7-oxo-, 2- (8 CI)
4-Thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, 6-[(amino(4-hydroxyphenyl)acetyl)amino]-3,3-dimethyl-7-oxo, [2S-[2alpha,5alpha,6beta(S*)]]- (9 CI)
26787-78-0
C16-H19-N3-O5-S
MW 365.41, MP 194 C (beta-Naphthalenesulfonate trihydrate)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1502 Urine	Ingestion	HPLC	6	a) 50.2-68.0 ug/ml b) 21.6-30.0 ug/ml	a) 60.3 ug/ml b) 24.4 ug/ml	a) Unchanged drug b) Metabolite (6-D-(-)-alpha-amino-p-hydroxyphenylp enicilloic acid) Excretion from 0 to 8 hr after a single 250 mg dose. 71.8-98.1% of the dose was recovered. DRUGS; ANTIBIOTICS; URINE; MEASUREMENT METHODS	Lee, T.L. D'Arconte, L. Brooks, M.A. 1979

4-Thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, 6-[2-amino-2-phenylacetamido]-3,3-dimethyl-7-oxo, D-(-)- (8 CI)
4-Thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, 6-[[aminophenylacetyl]amino]-3,3-dimethyl-7-oxo-, [2S-[2alpha,5alpha,6beta[S*]]]- (9 CI)
69-53-4
C16-H19-N3-O4-S
MW 349.42

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1503 Blood		Radiometry	4	a) 16.1-20.1% b) 79.0-83.6% c) 1.2-5.1%	a) 17.8% b) 80.9% c) 1.6% (statistically, equals zero)	a) Fraction bound in plasma b) Fraction in plasma water c) Fraction in red blood cells Distribution of a 40 ug/ml concentration for an IN VITRO equilibrium dialysis experiment. Healthy Swedish men age 23-28 years old. DRUGS; ANTIBIOTICS; BLOOD; BLOOD PLASMA; ERYTHROCYTES; IN VITRO ANALYSIS	Ehrnebo, M. 1978

4,6(1H,5H)-Pyrimidinedione, 5-ethyldihydro-5-phenyl-
125-33-7
C12-H14-N2-O2

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
150a Blood		GC	10 (17 samples)	a) Not applicable b) 2.1-15.1 ug/ml c) 9.1-39.5 ug/ml d) 2.3-9.1 ug/ml	a) 40.8 ug/ml b) 8.6 ug/ml c) 26.0 ug/ml d) 6.2 ug/ml	a) Total of mean concentrations of drug and metabolites b) Unmetabolized drug c) Phenobarbital (metabolite) d) phenylethylmalonamide (metabolite) Plasma levels of patients on primidone therapy (dose rates not given). DRUGS; ANTICONVULSANTS; MEASUREMENT METHODS; BLOOD PLASMA; METABOLITES	Ieal, M.W. Wilensky, A.J. Rapport, S.L. 1978

4,7-Methano-1H-indene, 1,2,3,4,5,6,7,8,8-nonachloro-2,3,3a,4,7,7a-hexahydro-, (1alpha,2beta,3alpha,3aalpha,4beta,7beta,7aalpha)-
39765-80-5
C10-H5-C19
MW 444.23

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1505 Adipose		CC GC-EC	9	158-448 ppb 14-173 ppb	a) 270.5 ppb b) 90.3 ppb	a) Routine analysis prescribed by EPA b) Confirmatory analysis using method which screens out interferers Values estimated from table. Post-mortem samples obtained from hospitals and the EPA-National Human Monitoring Program. PESTICIDES; CHLORINATED HYDROCARBONS; ADIPOSE TISSUE; COMPARATIVE EVALUATIONS; NONACHLOR; OXYCHLORDANE; HEPTACHLOR EPOXIDE	Atallah, Y.H. Whitacre, D.M. Polen, P.B. 1977
1506 Adipose		GC-EC	a) 47 b) 693	a) Not given b) Not given	a) 0.10 ppm b) 0.15 ppm Geometric	a) FY 74 b) FY 75 Frequency of occurrence in tissue 95.74-96.78%. Indicates exposure to chlordane and heptachlor Data from general population, collected by Nat'l Human Monitoring Program for Pesticides. PESTICIDES; CHLOROBENZENES; CHLORINE ORGANIC COMPOUNDS; DDT; UNITED STATES	Kutz, F.W. Strassman, S.C. Sperling, J.F. 1978

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4,7-Methano-1H-indene, 1,2,3,4,5,6,7,8,8-nonachloro-2,3,3a,4,7,7a-hexahydro-, (1alpha,2beta,3alpha,3aalpha,4beta,7beta,7aalpha)-
39765-80-5
C10-H5-Cl9
MW 444.23

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1507 Blood, serum	Ingestion	GC-EC	a) 7 b) 36 c) 6 d) 20	a) Not given b) Not given c) Not given d) Not given	a) 0.16 ppb b) 0.38 ppb c) 0.14 ppb d) 0.67 ppb	a) Whites, symptomatic b) Whites, controls c) Blacks, symptomatic d) Blacks, Controls. Samples from persons living in area in Chattanooga, TN affected by contaminated water supply. Thirteen of 71 individuals gave history of gastrointestinal symptoms and/or neurological symptoms. All recovered within 36-48 hours after exposure. PESTICIDES; POPULATION EXPOSURE; NEUROLOGIC MANIFESTATIONS; DRINKING WATER; CHLORINATED HYDROCARBONS; RACIAL STUDIES; NONACHLOR; OXYCHLORDANE; TENNESSEE	Harrington, J.M. Baker, E.L., Jr. Folland, D.S. Saucier, J.W. Sandifer, S.H. 1978
1508 Milk		GC	2	0.08-0.16 ug	0.12 ug	Amounts varied for different feedings. Values are daily total. Samples from donors at various times of breast feeding and at different times of the day. MILK; PESTICIDES; PESTICIDE RESIDUES; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; HEXACHLOROBENZENE; DDT; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE; OXYCHLORDANE; NONACHLOR; DDE; DIELDRIN	Mes, J. Davies, D.J. 1978
1509 Milk, whole		GC-EC	57	Trace-0.01 ppm	0.010 ppm	Residue levels were below instrument sensitivity and could not be confirmed. Samples from 17 Negroes and 40 Caucasians in hospitals in Arkansas and Mississippi. Agricultural application on rice fields PESTICIDES; PESTICIDE RESIDUES; MILK; POPULATION EXPOSURE; MAMMARY GLANDS; LACTATION; BIOACCUMULATION; MISSISSIPPI; ARKANSAS; PLACENTA	Strassman, S.C. Kutz, F.W. 1977
1510 Milk, whole		TLC GC/MS GC-EC	57	Trace - 0.01 ppm	< 0.01 ppm	14.1% positive samples Samples from residents of Arkansas and Mississippi PESTICIDES; ADIPOSE TISSUE; MILK; URINE; BIOACCUMULATION; BIPHENYL COMPOUNDS; CHLORINATED HYDROCARBONS; ARKANSAS; MISSISSIPPI	Kutz, F.W. Strassman, S.C. Yobs, A.R. 1977

4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-1,2-epoxy-3a,4,7,7a-tetrahydro- (8 CI)
2,5-Methano-2H-indeno[1,2-b]oxirene, 3a,2,3,4,5,6a,7,7-octachloro-1a,1b,5,5a,6,6a-hexahydro- (9 CI)
26880-48-8
C10-H4-Cl8-O
MW 423.77

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1511 Adipose		GC GC-EC	4	a) 28-356 ppb b) 0-65 ppb	a) 192.25 ppb b) 38.75 ppb	a) Routine analysis prescribed by EPA b) Confirmatory analysis using method which screens out interferers Values estimated from table. Post-mortem samples obtained from hospitals and the EPA-National Human Monitoring Program. PESTICIDES; CHLORINATED HYDROCARBONS; ADIPOSE TISSUE; COMPARATIVE EVALUATIONS; NONACHLOR; OXYCHLORDANE; HEPTACHLOR EPOXIDE	Atallah, Y.H. Whitacre, D.M. Polen, P.B. 1977
1512 Adipose		GC-EC	898	Maximum value: [illegible] ppm	0.12 ppm	75 collecting sites throughout the U.S.A. Sample quota allocated proportionally according to age, sex, and race distribution in the 1970 Census. Adipose tissue from postmortem examinations and surgical specimens. ADIPOSE TISSUE; PESTICIDES; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; AUTOPSIES; SURGERY; RACIAL STUDIES; DDT; DIELDRIN; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE; OXYCHLORDANE	Kutz, F.W. Yobs, A.R. Strassman, S.C. 1977

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4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-1,2-epoxy-3a,4,7,7a-tetrahydro- (8 CI)
2,5-Methano-2H-indeno(1,2-b)oxirene, 1a,2,3,4,5,6a,7,7-octachloro-1a,1b,5,5a,6,6a-hexahydro- (9 CI)
26880-48-8
C10-H4-Cl8-O
MW 423.77

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1513 Adipose		TLC GC/MS GC-EC	a) 1913 b) 1095 c) 898	a) Not given b) Not given c) Not given	a) 0.11 ppm b) 0.12 ppm c) 0.12 ppm	a) 1972 survey, 92.32% positive samples b) 1973 survey, 98.36% positive samples c) 1974 survey, 98.44% positive samples Lipid basis Means are geometric. Random samples obtained from medical pathologists and examiners in 48 states during 1972-1974. PESTICIDES; ADIPOSE TISSUE; MILK; DRINK; BIOACCUMULATION; BIPHENYL COMPOUNDS; CHLORINATED HYDROCARBONS; ARKANSAS; MISSISSIPPI	Kutz, F.W. Strassman, S.C. Yobs, A.R. 1977
1514 Adipose		GC-EC		a) Not given b) Not given c) Not given d) Not given e) Not given	a) 0.10 ppm b) 0.11 ppm c) 0.12 ppm d) 0.13 ppm e) 0.16 ppm Geometric	a) FY 71 (partial) b) FY 72 c) FY 74 d) FY 75 Indicates exposure to chlordane and heptachlor. Data from general population, collected by Nat'l Human Monitoring Program for Pesticides. PESTICIDES; CHLOROBENZENES; CHLORINE ORGANIC COMPOUNDS; DDT; UNITED STATES	Kutz, F.W. Strassman, S.C. Sperling, J.F. 1978

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4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-1,2-epoxy-3a,4,7,7a-tetrahydro- (8 CI)
2,5-Methano-2H-indeno(1,2-b)oxirene, 1a,2,3,4,5,6a,7,7-octachloro-1a,1b,5,5a,6,6a-hexahydro- (9 CI)
26880-48-8
C10-H4-Cl8-O
MW 423.77

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1515 Blood	Ingestion	GC-EC	a) 7 b) 36 c) 6 d) 20	a) Not given b) Not given c) Not given d) Not given	a) 0.01 ppb b) 0.03 ppb c) 0.02 ppb d) 0.04 ppb	a) Whites, Symptomatic b) Whites, controls c) Blacks, symptomatic d) Blacks, Controls. Symptomatic persons after 2 months: levels from 0.16-1.27 ppb (geometric mean 0.4). Samples from persons living in area in Chattanooga, TN, affected by contaminated water supply. Thirteen of 71 individuals gave history of gastrointestinal symptoms and/or neurological symptoms. All recovered within 36-48 hours after exposure. Spray for termite control PESTICIDES; POPULATION EXPOSURE; NEUROLOGIC MANIFESTATIONS; DRINKING WATER; CHLORINATED HYDROCARBONS; RACIAL STUDIES; NONACHLOR; OXYCHLORDANE; TENNESSEE	Harrington, J.M. Baker, E.L., Jr. Folland, D.S. Saucier, J.W. Sandifer, S.H. 1978
1516 Milk		GC	2	0.09-0.17 ug	0.13 ug	Amounts varied for different feedings. Values are daily total. Samples from donors at various times of breast feeding and at different times of the day. MILK; PESTICIDES; PESTICIDE RESIDUES; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; HEXACHLOROBENZENE; DDT; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE; OXYCHLORDANE; NONACHLOR; DDE; DIELDRIN	Mes, J. Davies, D.J. 1978
1517 Milk, whole		GC-EC	57	Trace-0.02 ppm	0.012 ppm	Samples from 17 Negroes and 40 Caucasians in hospitals in Arkansas and Mississippi. Agricultural application on rice fields PESTICIDES; PESTICIDE RESIDUES; MILK; POPULATION EXPOSURE; MAMMARY GLANDS; LACTATION; BIOACCUMULATION; MISSISSIPPI; ARKANSAS; PLACENTA	Strassman, S.C. Kutz, F.W. 1977
1518 Milk, whole		TLC GC/MS GC-EC	57	Trace - 0.02 ppm	< 0.01 ppm	45.6 positive samples Samples from residents of Arkansas and Mississippi PESTICIDES; ADIPOSE TISSUE; MILK; URINE; BIOACCUMULATION; BIPHENYL COMPOUNDS; CHLORINATED HYDROCARBONS; ARKANSAS; MISSISSIPPI	Kutz, F.W. Strassman, S.C. Yobs, A.R. 1977

4,7-Methanoindan, 1,4,5,6,7,8,8-heptachloro-2,3-epoxy-3a,4,7,7a-tetahydro- (8 CI)
2,5-Methano-2H-indeno[1,2-b]oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a-hexahydro- (9 CI)
102--57-3
C10-H5-Cl7-O
MW 389.32

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1519 Adipose		GC-EC	1412	0-10.62 ppm	0.17 ppm	Samples of adipose tissue obtained through pathologists in 32 cities in the U.S.A. ADIPOSE TISSUE; PESTICIDES; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; AUTOPSIES; DDT; DIELDRIN; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE	Kutz, F.W. Yobs, A.R. Johnson, W.G. Wiersma, G.B. 1974b

4,7-Methanoindan, 1,4,5,6,7,8,8-heptachloro-2,3-epoxy-3a,4,7,7a-tetrahydro- (8 CI)
2,5-Methano-2H-indeno[1,2-b]oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a-hexahydro- (9 CI)
1024-57-3
C10-H5-Cl7-O
MW 389.32

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	SOURCE OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1520 Adipose		GC GC-EC	4	a) 97-807 ppb b) 0-102 ppb	a) 316.3 ppb b) 45.3 ppb	a) Routine analysis prescribed by EPA b) Confirmatory analysis using method which screens out interferers Values estimated from table. Post-mortem samples obtained from hospitals and the EPA-National Human Monitoring Program. PESTICIDES; CHLORINATED HYDROCARBONS; ADIPOSE TISSUE; COMPARATIVE EVALUATIONS; NONACHLOR; OXYCHLORDANE; HEPTACHLOR EPOXIDE	Atallah, Y.H. Whitacre, D.M. Polen, P.B. 1977
1521 Adipose		GC-EC	1	Not applicable	400 ppb	Professional pest control operator Bile, gallstone, and adipose fat obtained from a pest control worker who underwent cholecystectomy. Bile obtained from T-tube drainage of 5 hospitalized patients (who had not been associated with pesticide-using industries) following cholecystectomies. BILE; PESTICIDES; DIELDRIN; CHLORINATED HYDROCARBONS; LIVER; DDT; DDE; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE; OCCUPATIONAL HAZARDS; ARIZONA; BLOOD SERUM; ADIPOSE TISSUE	Panchal, K.H. Boan, C.C. Morgan, D.P. 1978
1522 Adipose		GC-EC	808	Maximum value: 0.77 ppm	0.08 ppb	75 collecting sites throughout the U.S.A. Sample quota allocated proportionally according to age, sex, and race distribution in the 1970 Census. Adipose tissue from postmortem examinations and surgical specimens. ADIPOSE TISSUE; PESTICIDES; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; AUTOPSIES; SURGERY; RACIAL STUDIES; DDT; DIELDRIN; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE; OXYCHLORDANE	Kutz, F.W. Yobs, A.R. Strassman, S.C. 1977

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4,7-Methanoindan, 1,4,5,6,7,8,8-heptachloro-2,3-epoxy-3a,4,7,7a-tetrahydro- (8 CI)
2,5-Methano-2H-indeno[1,2-b]oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a-hexahydro- (9 CI)
1024-57-3
C10-H5-Cl7-O
MW 389.32

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TISSUE	EXPOSURE SCORE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1523 Adipose		GC GC-EC	a) 5 b) 9	a) 0-0.18 ppm b) 0-1.20 ppm	a) 0.0444 ppm b) 0.2740 ppm	a) Control-adjacent to breast tissue b) Adjacent to malignant breast tissue Values represent the concentrations in extracted lipids "Hexachlor" epoxide, name used in table, while heptachlor is used in text. Malignant tissue, adjacent to apparently normal glandular and adipose tissue of nine women with adenocarcinoma of the breast, obtained from the A.C. Camargo Hospital in Sao Paulo. Mammary gland and adjacent adipose tissue from 5 healthy women who died accidentally used for controls. BREAST; MAMMARY GLANDS; NEOPLASMS; ADIPOSE TISSUE; CARCINOMAS; PESTICIDES; LIPIDS; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; BIPHENYL COMPOUNDS; DIELDRIN; POLYCHLORINATED BIPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE; DDD; HEPTACHLOR EPOXIDE	Wassermann, M. Nogueira, D.P. Tomatis, L. Mitra, A.P. Shibata, H. Arie, G. Cucos, S. Wassermann, D. 1976

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4,7-Methanoindan, 1,4,5,6,7,8,8-heptachloro-2,3-epoxy-3a,4,7,7a-tetrahydro- (8 CI)
2,5-Methano-2H-indeno(1,2-b)oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a-hexahydro- (9 CI)
1024-57-3
C10-H5-Cl7-O
MW 389.32

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1524 Adipose		CC GC-EC	8	Not given	0.2856 ppm	In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DIT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977
1525 Adipose		TLC GC/MS GC-EC	a) 1812 b) 1615 c) 1913 d) 1095 e) 898	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 0.09 ppm b) 0.09 ppm c) 0.08 ppm d) 0.09 ppm e) 0.08 ppm	a) 1970 survey, 94.76% positive samples b) 1971 survey, 96.22% positive samples c) 1972 survey, 90.28% positive samples d) 1973 survey, 97.72% positive samples e) 1974 survey, 96.21% positive samples Lipid basis Means are geometric. Random samples from 48 states during 1970-1974. Samples included postmortem and surgical specimens. No samples were from insecticide poisonings. PESTICIDES; ADIPOSE TISSUE; MILK; URINE; BIOACCUMULATION; BIPHENYL COMPOUNDS; CHLORINATED HYDROCARBONS; ARKANSAS; MISSISSIPPI	Kutz, F.W. Strassman, S.C. Yobs, A.R. 1977

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4,7-Methanoindan, 1,4,5,6,7,8,8-heptachloro-2,3-epoxy-3a,4,7,7a-tetrahydro- (8 CI)
2,5-Methano-2H-indeno[1,2-b]oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a-hexahydro- (9 CI)
1024-57-3
C10-H5-Cl7-O
MW 389.32

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1526 Adipose		GC-EC		a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 0.08 ppm b) 0.09 ppm c) 0.07 ppm d) 0.09 ppm e) 0.09 ppm f) 0.10 ppm Geometric	a) FY 70 b) FY 71 c) FY 72 d) FY 73 e) FY 74 f) FY 75 Indicates exposure to heptachlor and chlordane Data from general population, collected by Nat'l Human Monitoring Program for Pesticides. PESTICIDES; CHLOROBENZENES; CHLORINE ORGANIC COMPOUNDS; DDT; UNITED STATES	Kutz, F.W. Strassman, S.C. Sperling, J.F. 1978
1527 Amniotic fluid		GC GC-EC	4	Not given	0.6730 ppm	In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DDT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, Y. 1977

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1,4,5,6,7,8,8-Heptachloro-2,3-epoxy-3a,4,7,7a-tetrahydro- (8 CI)
2,5-Methano-2H-indeno(1,2-b)oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a-hexahydro- (9 CI)
1024-57-3
C10-H5-Cl7-O
MW 389.72

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TISSUE	EXPOSURE SCALE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1528 Bile		GC-EC	1	Not applicable	1 ppb	Professional pest control operator Bile, gallstone, and adipose fat obtained from a pest control worker who underwent cholecystectomy. Bile obtained from T-tube drainage of 5 hospitalized patients (who had not been associated with pesticide-using industries) following cholecystectomies. BILE; PESTICIDES; DIELDRIN; CHLORINATED HYDROCARBONS; LIVER; DDE; DDT; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE; OCCUPATIONAL HAZARDS; ARIZONA; BLOOD SERUM; ADIPOSE TISSUE	Paschal, E.M. Egan, C.C. Morgan, D.P. 1974
1529 Blood		GC GC-EC	a) 24 b) 23	a) Not given b) Not given	a) 0.2798 ppm b) 0.9959 ppm	a) Maternal b) Fetal In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DDT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977

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4,7-Methanoindan, 1,4,5,6,7,8,8-heptachloro-2,3-epoxy-3a,4,7,7a-tetrahydro- (8 CI)
2,5-Methano-2H-indeno[1,2-b]oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a-hexahydro- (9 CI)
1024-57-3
C10-H5-Cl7-O
MW 389.32

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1510 Blood, serum		GC-EC	1	Not applicable	1 ppb	Professional pest control operator Bile, gallstone, and adipose fat obtained from a pest control worker who underwent cholecystectomy. Bile obtained from T-tube drainage of 5 hospitalized patients (who had not been associated with pesticide-using industries) following cholecystectomies. BILE; PESTICIDES; DIELDRIN; CHLORINATED HYDROCARBONS; LIVER; DDT; DDE; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE; OCCUPATIONAL HAZARDS; ARIZONA; BLOOD SERUM; ADIPOSE TISSUE	Paschal, E.H. Boan, C.C. Morgan, D.P. 1974
1511 Gall stone		GC-EC	1	Not applicable	1 ppb	Professional pest control operator Bile, gallstone, and adipose fat obtained from a pest control worker who underwent cholecystectomy. Bile obtained from T-tube drainage of 5 hospitalized patients (who had not been associated with pesticide-using industries) following cholecystectomies. BILE; PESTICIDES; DIELDRIN; CHLORINATED HYDROCARBONS; LIVER; DDT; DDE; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE; OCCUPATIONAL HAZARDS; ARIZONA; BLOOD SERUM; ADIPOSE TISSUE	Paschal, E.H. Boan, C.C. Morgan, D.P. 1974

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4,7-Methanoindan, 1,8,5,6,7,8,8-heptachloro-2,3-epoxy-3a,4,7,7a-tetrahydro- (8 CI)
2,5-Methano-2H-indeno(1,2-b)oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a-hexahydro- (9 CI)
1024-57-3
C10-H5-Cl7-O
MW 389.32

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1532 Mammary gland		CC GC-EC	a) 5 b) 9 c) 9	a) 0-0.59 ppm b) 0-1.61 ppm c) 0-0.51 ppm	a) 0.2336 ppm b) 0.3506 ppm c) 0.1282 ppm	a) Control b) Malignant c) Breast tissue adjacent to malignancy "Hexachlor" epoxide, name used in table, while heptachlor is used in text. Malignant tissue, adjacent to apparently normal glandular and adipose tissue of nine women with adenocarcinoma of the breast, obtained from the A.C. Camargo Hospital in Sao Paulo. Mammary gland and adjacent adipose tissue from 5 healthy women who died accidentally used for controls. BREAST; MAMMARY GLANDS; NEOPLASMS; ADIPOSE TISSUE; CARCINOMAS; PESTICIDES; LIPIDS; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; BIPHENYL COMPOUNDS; DIELDRIN; POLYCHLORINATED BIPHENYLS; DDT; DDE; HEXACHLOROCYCLOHEXANE; DDD; HEPTACHLOR EPOXIDE	Wassermann, M. Nogueira, D.P. Tomatis, L. Mirra, A.P. Shibata, H. Arie, G. Cucos, S. Wassermann, D. 1976
1533 Milk		GC-EC	57	Trace-0.03 ppm	0.012 ppm	Residue levels were below instrument sensitivity and could not be confirmed. Samples from 17 Negroes and 40 Caucasians in hospitals in Arkansas and Mississippi. Agricultural application on rice fields PESTICIDES; PESTICIDE RESIDUES; MILK; BIOACCUMULATION; POPULATION EXPOSURE; MAMMARY GLANDS; LACTATION; PLACENTA; ARKANSAS; MISSISSIPPI	Strassman, S.C. Kutz, F.W. 1977

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4,7-Methanoindan, 1,4,5,6,7,8,8-heptachloro-2,3-epoxy-3a,4,7,7a-tetrahydro- (8 CI)
2,5-Methano-2H-indeno(1,2-b)oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a-hexahydro- (9 CI)
1024-57-3
C10-H5-Cl7-O
MW 389.32

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1534 Milk		GC	2	0.05-0.10 ug	0.08 ug	Amounts varied for different feedings. Values are daily total. Samples from donors at various times of breast feeding and at different times of the day. MILK; PESTICIDES; PESTICIDE RESIDUES; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; HEXACHLOROBENZENE; DDT; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE; OXYCHLORDANE; NONACHLOR; DDE; DIELDRIN	Mes, J. Davies, D.J. 1978
1535 Milk, whole		TLC GC/MS GC-EC	57	Trace - 0.03 ppm	< 0.01 ppm	26.1% positive samples. Samples from lactating women in selected areas of Arkansas and Mississippi. PESTICIDES; ADIPOSE TISSUE; MILK; URINE; BIOACCUMULATION; BIPHENYL COMPOUNDS; CHLORINATED HYDROCARBONS; ARKANSAS; MISSISSIPPI	Kutz, F.W. Strassman, S.C. Yobs, A.R. 1977
1536 Placenta		CC GC-EC	19	Not given	0.5000 ppm	In extracted lipids. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DDT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977
1537 Uterus		CC GC-EC	7	Not given	0.4895 ppm	In extracted lipids of uterine muscle. Twenty-four women and their offspring were studied during labor. Eight cases underwent cesarean section. BLOOD; PLACENTA; MUSCLES; UTERUS; PREGNANCY; FETUS; ADIPOSE TISSUE; PESTICIDES; INSECTICIDES; DIELDRIN; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; BIPHENYL COMPOUNDS; AMNIOTIC FLUID; POLYCHLORINATED BIPHENYLS; DDT; DDE; DDD; HEXACHLOROCYCLOHEXANE; HEPTACHLOR EPOXIDE	Polishuk, Z.W. Wassermann, D. Wassermann, M. Cucos, S. Ron, M. 1977

4H-1,3,2-Oxazaphosphorin-4-one, 2-[bis(2-chloroethyl)amino]tetrahydro-, 2-oxide
27046-19-1
C7-H13-Cl2-N2-O2-P

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1538 Urine	Ingestion	MS	a) 4 b) 4 c) 4	a) 6.6-18 mg/24 hr b) 11-29 mg/24 hr c) 6.6-12.5 mg/24 hr	a) 11.75 mg/24 hr b) 18.04 mg/24 hr c) 9.25 mg/24 hr	a) After racemic (+ and -) drug administration b) After (+) enantiomer administration c) After (-) enantiomer administration 4 patients with squamous cell carcinoma of the lung, mean age 61 yr (54-68 yr). DRUGS; URINE; COMPARATIVE EVALUATIONS; METABOLISM; NEOPLASMS	Jarman, M. Milsted, R.A.V. Smyth, J.F. Kinas, R.W. Pankiewicz, K. Stec, W.J. 1979

5-Norbornene-2,3-dimethanol, 1,4,5,6,7,7-hexachloro-, cyclic sulfite (8 CI)
6,9-Methano-2,4,3-benzodioxathiepan, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide (9 CI)
115-29-7
C9-H6-Cl6-O3-S
MW 406.95, MP 106 C, VP 1X10(E-5) mm Hg at 25 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1539 Blood	Ingestion	GC/MS	1	Not applicable	0.075 ppm	Concentration of two isomers. 28 yr old victim of Endosulfan poisoning. Congested and edematous lungs, death by asphyxiation. Insecticide CHLORINATED HYDROCARBONS; STOMACH; INTESTINES; KIDNEYS; BLOOD; BRAIN; LIVER; URINE; CASE HISTORIES	Demeter, J. Heyndrickx, A. 1978
1540 Brain	Ingestion	GC	1	Not applicable	4.1 ppm	Concentration of two isomers. 40 yr old victim of Endosulfan poisoning. Congested and edematous lungs, death by asphyxiation. Insecticide CHLORINATED HYDROCARBONS; STOMACH; INTESTINES; KIDNEYS; BLOOD; BRAIN; LIVER; URINE; CASE HISTORIES	Demeter, J. Heyndrickx, A. 1978
1541 Kidney	Ingestion	GC/MS GC	a) 1 b) 1	a) Not applicable b) Not applicable	a) 4.28 ppm b) 11.4 ppm	a) Victim 1 b) Victim 2 Concentrati of two isomers. 28 and 40 yr victims of Endosulfan poisoning. Congested and edematous lungs, cyanotic face, dark red-purple stained body. Insecticide CHLORINATED HYDROCARBONS; STOMACH; INTESTINES; KIDNEYS; BLOOD; BRAIN; LIVER; URINE; CASE HISTORIES	Demeter, J. Heyndrickx, A. 1978
1542 Liver	Ingestion	GC/MS GC	a) 1 b) 1	a) Not applicable b) Not applicable	a) 17.7 ppm b) 78 ppm	a) Victim 1 b) Victim 2 Concentration of two isomers. 28 and 40 yr old victims of Endosulfan poisoning. Congested and edematous lungs, cyanotic face, dark red-purple stained body. Insecticide CHLORINATED HYDROCARBONS; STOMACH; INTESTINES; KIDNEYS; BLOOD; BRAIN; LIVER; URINE; CASE HISTORIES	Demeter, J. Heyndrickx, A. 1978

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5-Norbornene-2,3-dimethanol, 1,4,5,6,7,7-hexachloro-, cyclic sulfite (8 CI)
6,9-Methano-2,4,3-benzodioxathiepan, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide (9 CI)
115-29-7
C9-H6-Cl6-O3-S
MW 406.95, MP 106 C, VP 1X10(E-5) mm Hg at 25 C

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1543 Urine	Ingestion	GC/MS	1	Not applicable	2.65 ppm	Concentration of two isomers. 28 yr old victim of Endosulfan poisoning. Congested and edematous lungs, death by asphyxiation. Insecticide CHLORINATED HYDROCARBONS; STOMACH; INTESTINES; KIDNEYS; BLOOD; BRAIN; LIVER; URINE; CASE HISTORIES	Demeter, J. Heyndrickx, A. 1978

5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[(aminocarbonyl)oxy]methyl]-7-[(2-furanyl(methoxyimino)acetyl)amino]-8-oxo, (6R-(6alpha,7beta(Z)))-
55268-75-2
C16-H16-N4-O8-S

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1544 Blood, serum	Injection	Immunodiffusion	6	a) Not applicable b) Not applicable	a) 55 ug/l b) 0.7 ug/l	a) 0.5 hr after injection b) After 8 hr 6 healthy volunteers, aged 20-35 yrs. 81 min ANTIBIOTICS; DRUGS; SKIN; BLOOD SERUM	Gillett, A.P. Wise, R. 1978

5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[(aminocarbonyl)oxy]methyl]-7-methoxy-8-oxo-7-[(2-thienylacetyl)amino]-, (6R-cis)-
35607-66-0
C16-H17-N3-O7-S2
MW 427.46, MP 149-150 C (decomp)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1545 Blood, serum	Injection	Microbiological	6	a) Not given b) Not given c) Not given d) Not given	a) 33.42 ug/ml b) 20.95 ug/ml c) 12.33 ug/ml d) 4.60 ug/ml	a) 120 min b) 180 min c) 240 min d) 360 min Levels after first of 4 2-g infusions given 8 hr apart. Pattern of levels was similar after the fourth dose. Surgical patients (5 females, 1 male, mean age 69 yr, mean weight 62 kg). 3 of 9 patients being treated with cefoxitin for acute infection developed phlebitis. 6 were cured of their infection. 86.6 min DRUGS; ANTIBIOTICS; BLOOD SERUM	Christophidis, N. Dawborn, J.K. Vajda, F.J.E. 1978
1546 Blood, serum	Injection	Immunodiffusion	6	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) 40 mg/l b) 10 mg/l c) 11 mg/l d) 5 mg/l	a) 0.5 hr after injection b) After 4 hr c) In exudate from skin abrasions 0.5-1.5 hr after injection d) In exudate after 1.5-2.5 hr 6 healthy volunteers, aged 20-35 yrs. 54 min ANTIBIOTICS; DRUGS; SKIN; BLOOD SERUM	Gillett, A.P. Wise, R. 1978

5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[5-methyl-1,3,4-thiadiazol-2-yl]thio]methyl]-8-oxo-7-[2-[1H-tetrazol-1-yl]acetamido]- (8 CI)
5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[5-methyl-1,3,4-thiadiazol-2-yl]thio]methyl]-8-oxo-7-[[1H-tetrazol-1-ylacetyl]amino]-, [6R-trans]- (9 CI)
25953-19-9
C14-H14-N8-O4-S3
MW 454.5, MP 198-200 C

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1587 Blood, serum	Injection	Microbiological		a) Not given b) Not given c) Not given d) Not given e) Not given	a) 180 ug/ml b) 110 ug/ml c) 75 ug/ml d) 45 ug/ml e) 15 ug/ml	a) 5 min b) 30 min c) 60 min d) 120 min e) 240 min Levels after a 1 g dose. DRUGS; ANTIBIOTICS; BLOOD SERUM	Greene, D.S. Quintiliani, R. Nightingale, C.H. 1978

5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 7-((amino-1,4-cyclohexadien-1-ylacetyl)amino)-3-methoxy-8-oxo-, (6R-(6alpha,7beta(R*)))-
S17(2-05-1
C16-H19-N3-05-S

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1588 Blood, serum	Ingestion	Immunodiffusion	6	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) 17 ug/l b) 0.8 ug/l c) 12 ug/l d) 7 ug/l	a) Peak 2 hrs after administration b) After 8 hrs c) Peak, exudate from skin abrasions, 1-2 hrs after administration d) Exudate after 3-4 hrs Values estimated from graph. 6 healthy volunteers, aged 20-35 yrs. Slight EEG changes in 60% of subjects. Small increases in serum transaminases related to bromine serum levels. No relationship with subjective symptoms, general neurological condition or results of serum protein electrophoresis. 55 min ANTIBIOTICS; DRUGS; SKIN; BLOOD SERUM	Gillett, A.P. Wise, R. 1978

5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[(amino-1,4-cycloheradien-1-ylacetyl)amino]-3-methyl-8-oxo-, (6R-[6alpha,7beta(R*)])-
38821-53-3
C16-H19-N3-O4-S
MW 349.41, MP 140-142 C (Decomp)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1549 Blood, serum	Ingestion	Microbiological	9	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 19.3 ug/ml b) 27.4 ug/ml c) 24.4 ug/ml d) 13.1 ug/ml e) 3.4 ug/ml	a) 30 min b) 60 min c) 90 min d) 150 min e) 240 min Levels after first of 5 1000-mg doses every 6 hr (capsules). Similar values recorded after fifth dose. The mean peak of 32.7 ug/ml was at 69.3 min. Healthy individuals aged 23-38. 66.3 min DRUGS; ANTIBIOTICS; BLOOD SERUM; URINE	Finkelstein, E. Quintiliani, R. Lee, R. Bracci, A. Nightingale, C.H. 1978
1550 Blood, serum	Injection	Microbiological	5	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 150 ug/ml b) 70 ug/ml c) 20 ug/ml d) 10 ug/ml e) 4 ug/ml	a) 30 min b) 30 min c) 60 min d) 120 min e) 240 min Levels after a 2 g dose. DRUGS; ANTIBIOTICS; BLOOD SERUM	Greene, D.S. Quintiliani, R. Nightingale, C.H. 1978
1551 Urine	Ingestion	Microbiological	9	Not applicable	845 mg	Total excreted in 6 hr after a 1000-mg dose (capsule). Healthy individuals age 23-38. DRUGS; ANTIBIOTICS; BLOOD SERUM; URINE	Finkelstein, E. Quintiliani, R. Lee, R. Bracci, A. Nightingale, C.H. 1978

5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 7-(2-amino-2-phenylacetamido)-3-methyl-8-oxo-, D- (8 CI)
5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 7-((aminophenylacetyl)amino)-3-methyl-8-oxo-, [6R-(6alpha,7beta(R*))]- (9 CI)
15686-71-2
C16-H17-N3-O4-S
MW 347.4

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1552 Blood	Ingestion	Microbiological	9	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 14.7 ug/ml b) 28.3 ug/ml c) 19.5 ug/ml d) 9.0 ug/ml e) 3.6 ug/ml	a) 30 min b) 60 min c) 90 min d) 150 min e) 240 min Levels after first of 5 1000-mg doses every 6 hr (capsules). Similar values recorded after fifth dose. The mean peak of 30.6 ug/ml occurred at 60.4 min. Healthy individuals aged 23-38. 46.2 min DRUGS; ANTIBIOTICS; BLOOD SERUM; URINE	Finkelstein, E. Quintiliani, R. Lee, R. Bracci, A. Nightingale, C.H. 1978
1553 Blood, serum	Ingestion	Microbiological	9	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 9.0 ug/ml b) 23.2 ug/ml c) 22.6 ug/ml d) 10.2 ug/ml e) 3.1 ug/ml	a) 30 min b) 60 min c) 90 min d) 150 min e) 240 min Levels after first of 5 500-mg doses every 6 hr (tablets). Similar values recorded after fifth dose. The mean peak of 28.5 ug/ml was at 66.2 min. Healthy individuals aged 23-38. 48.1 min DRUGS; ANTIBIOTICS; BLOOD SERUM; URINE	Finkelstein, E. Quintiliani, R. Lee, R. Bracci, A. Nightingale, C.H. 1978

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5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[2-amino-2-phenylacetamido]-3-methyl-8-oxo-, D- (8 CI)
5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[(aminophenylacetyl)amino]-3-methyl-8-oxo-, [6R-[6alpha,7beta(R*)]]- (9 CI)
15686-71-2
C16-H17-N3-O4-S
MW 347.4

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1558 Blood, serum	Injection	Microbiological	5	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 30 ug/ml b) 15 ug/ml c) 8 ug/ml d) 4 ug/ml e) 1 ug/ml	a) 15 min b) 30 min c) 60 min d) 120 min e) 180 min Levels after a 1 g dose. DRUGS; ANTIBIOTICS; BLOOD SERUM	Greene, D.S. Quintiliani, R. Nightingale, C.H. 1978
1555 Blood, serum	Ingestion	Immunodiffusion	6	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) 20 mg/l b) 1 mg/l c) 15 mg/l d) 10 mg/l	a) Peak 2 hr after administration b) After 8 hr c) Peak, exudate from skin atrasions, 1-3 hr after administration d) Exudate after 3-4 hr Values estimated from graph. 6 healthy volunteers, aged 20-35 yrs. 60 min ANTIBIOTICS; DRUGS; SKIN; BLOOD SERUM	Gillett, A.P. Wise, R. 1978
1556 Urine	Ingestion		9	a) Not applicable b) Not applicable	a) 965 mg b) 863 mg	a) Capsule b) Tablet Total excreted in 6 hr after a 1000-mg dose. Healthy individuals aged 23-38. DRUGS; ANTIBIOTICS; BLOOD SERUM; URINE	Finkelstein, R. Quintiliani, R. Lee, P. Bracci, R. Nightingale, C.H. 1978

5beta-Cholan-24-oic acid, 3alpha,7alpha-dihydroxy- (8 CI)
Cholan-24-oic acid, 3,7-dihydroxy-, (3alpha,5beta,7alpha)- (9 CI)
474-25-9
C24-H40-04

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1557 Bil-	Ingestion	GC/MS	5	a) 82.9-96.0% b) 0.7-6.8% c) 0.9-13.5% d) <0.1-5.0% e) <0.1-5.9% f) <0.1-5.2% g) <0.1% h) <0.1-0.3%	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) Chenodeoxycholic acid b) Lithocholic acid c) Ursodeoxycholic acid d) Cholic acid e) Deoxycholic acid f) Isocholic acid g) 7-Keto-lithocholic acid h) 12 Keto-lithocholic acid Biliary bile acid composition during treatment with 15 mg/kg/day chenodeoxycholic acid Samples from gall stone patients. DRUGS; BILE; METABOLITES; DRUG THERAPY; MINNESOTA	Hofmann, A.F. Thistle, J.L. Klein, P.D. Szczepanik, P.A. Yu, P.Y.S. 1978

5H-Dibenz(b,f)azepine, 10,11-dihydro-5-(3-(methylamino)propyl)- (8 CI)
5H-Dibenz(b,f)azepine-5-propanamine, 10,11-dihydro-N-methyl- (9 CI)
50-47-5
C18-H22-N2

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1558 Bile		GC	1	Not applicable	67.0 mg/l	2 yr old child given trimeprazine. Death due to drug. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, H. 1979
1559 Blood		GC	1	a) Not applicable b) Not applicable	a) 5.0 mg/l b) 22.0 mg/l	a) 2 yr old child given trimeprazine b) liver blood level, same child. Death due to drug. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, H. 1979
1560 Urine		GC	1	Not applicable	2.0 mg/l	2 yr old child given trimeprazine. Death due to drug. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; CHILDREN; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, H. 1979

5H-Dibenz(b,f)azepine, 5-(3-(dimethylamino)-2-methylpropyl)-10,11-dihydro- (8 CI)
5H-Dibenz(b,f)azepine-5-propanamine, 10,11-dihydro-N,N,beta-trimethyl- (9 CI)
739-71-9
C20-H26-N2

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1561 Bile		GC	1	Not applicable	2.8 mg/l	Carboxyhemoglobin = 78% 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, R. 1979
1562 Blood		GC	1	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) 1.3 mg/l b) 1.8 mg/l c) 1.6 mg/l d) 9.4 mg/l	a) Carboxyhemoglobin, 78% b) Liver blood level, carboxyhemoglobin level = 78% c) Alcohol (211 mg/100 ml) + 2 other drugs (76.8 mg/l) also present d) Liver blood level. Alcohol + 2 other drugs present 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, R. 1979
1563 Urine		GC	1	Not applicable	0.5 mg/l	Carboxyhemoglobin = 78% 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 8-20 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, R. 1979

5H-Dibenz(b,f)azepine, 5-(3-(dimethylamino)propyl)-10,11-dihydro- (8 CI)
5H-Dibenz(b,f)azepine-5-propanamine, 10,11-dihydro-N,N-dimethyl- (9 CI)
50-49-7
C19-H24-N2

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1564 Bile		GC	5	19.2-71.7 mg/l	Not given	Deaths due to imipramine poisoning. Other data available for fatalities due to imipramine combined with alcohol or other drugs. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, H. Holder, A.T. Powell, R. 1979
1565 Blood		GC	a) 6 b) 6	a) 0.3-4.1 mg/l b) 0.2-9.6 mg/l	a) Not given b) Not given	a) Values for peripheral blood b) Values for liver blood Deaths due to imipramine poisoning. Other data available for fatalities due to imipramine combined with alcohol or other drugs. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, H. Holder, A.T. Powell, R. 1979
1566 Urine		GC	3	0.8-12.7 mg/l	Not given	Deaths due to imipramine poisoning. Other data available for fatalities due to imipramine combined with alcohol or other drugs. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, H. Holder, A.T. Powell, R. 1979

5H-Dibenzo(a,d)cycloheptene-delta(5,gamma)-propylamine, 10,11-dihydro-N-methyl- (8 CI)
1-Propanamine, 3-(10,11-dihydro-5H-dibenzo(a,d)cyclohepten-5-ylidene)-N-methyl- (9 CI)
72-69-5
C19-H21-N
MW 263.37, MP 213-215

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1567 Blood, plasma	Ingestion		a) 10 b) 17	a) Not given b) Not given	a) 95.8 ng/ml b) 102.1 ng/ml	a) Subjects < or = 65 yr, average daily dose of 85 mg/day b) Subjects > 65 yr, average daily dose of 76.5 mg/day Concentrations after four weeks of treatment. Samples from patients at a Copenhagen hospital. About 70% of the patients were treated sucessfully. DRUGS; ANTIDEPRESSIVE AGENTS; PSYCHOTROPIC DRUGS; DENMARK	Sorensen, B. Kragh-Sorensen, P. Larsen, N.-E. Huidberg, E.F. 1978

5H-Dibenzo(a,d)cycloheptene-delta(5,gamma)-propylamine, 10,11-dihydro-N,N-dimethyl- (8 CI)
1-Propanamine, 3-(10,11-dihydro-5H-dibenzo(a,d)cyclohepten-5-ylidene)-N,N-dimethyl- (9 CI)
50-48-6
C20-H23-N

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1568 Bile		GC	7	0.3-171.2 mg/l	Not given	Deaths due to amitriptyline poisoning. Other data available for fatalities from amitriptyline combined with alcohol or other drugs. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, H. Holder, A.T. Powell, H. 1979
1569 Blood		GC	a) 11 b) 2 c) 4 d) 5 e) 2 f) 8 g) 4 h) 3 i) 2	a) 0.1-11.5 mg/l b) 0.7-0.8 mg/l c) 0.2-0.9 mg/l d) 0.04-0.3 mg/l e) Not applicable f) 0.7-22.6 mg/l g) 0.1-4.2 mg/l h) 0.7-1.8 mg/l i) 1.7-3.0 mg/l	a) 1.7 mg/l b) 0.8 mg/l c) 0.4 mg/l d) 0.25 mg/l e) 0.2 mg/l f) 4.8 mg/l g) 7.1 mg/l h) 1.1 mg/l i) 2.4 mg/l	a) Mean without high (0.76 mg/l) value of range b) With alcohol also present c) 1 additional drug present d) 2 additional drugs present e) 3 additional drugs present f) Liver blood values - amytriptyline g) Liver blood values with 1 additional drug h) Liver blood values with 2 additional drugs i) Liver blood values with 3 additional drugs 44 Fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, H. Holder, A.T. Powell, H. 1979

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5H-Dibenzo(a,d)cycloheptene-delta(5,gamma)-propylamine, 10,11-dihydro-N,N-dimethyl- (8 CI)
1-Propanamine, 3-(10,11-dihydro-5H-dibenzo(a,d)cycloheptan-5-ylidene)-N,N-dimethyl- (9 CI)
50-48-6
C20-H23-N

(CONTINUED)

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1570 Blood, whole		TLC Fluorometry	a) 4 b) 4	a) 33-165 ng/ml b) 6-10 ng/ml	a) 68 ng/ml b) 7 ng/ml	a) Amitriptyline levels b) Metabolite 10-hydroxyamitriptyline levels Patients treated with 100 mg dose at bedtime. Patients with depressive neurosis. ANTIDEPRESSIVE AGENTS; DRUGS; BLOOD; MEASUREMENT METHODS	Kaul, P.N. Whitfield, L.P. Clark, M.L. 1978
1571 Kidney		GC	1	5.2-6.4 ug/g	5.8 ug/g	Range is for right and left kidney. 2 barbiturates and alcohol also present. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, H. 1979
1572 Liver		GC	1	Not applicable	7.4 ug/g	Barbiturates and alcohol also present. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, H. 1979

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5H-Dibenzo(a,d)cycloheptene-delta(5,gamma)-propylamine, 10,11-dihydro-N,N-dimethyl- (8 CI)
1-Propanamine, 3-(10,11-dihydro-5H-dibenzo(a,d)cycloheptene-5-ylidene)-N,N-dimethyl- (9 CI)
50-48-6
C20-H23-N

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TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1573 Lung		GC	1	6.2-7.7 ug/g	6.9 ug/g	Range is for right and left lung. 2 barbiturates and alcohol also present. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, B. 1979
1574 Spleen		GC	1	Not applicable	15.6 ug/g	2 barbiturates and alcohol also present. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, B. 1979
1575 Urine		GC	6	0.7-47.0 mg/l	Not given	Deaths due to amitriptyline poisoning. Other data available for fatalities from amitriptyline combined with alcohol or other drugs. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, B. 1979

9,10-Ethanoanthracene-9(10H)-propylamine, N-methyl- (8 CI)
9,10-Ethanoanthracene-9(10H)-propanamine, N-methyl- (9 CI)
10262-69-8
C20-H23-N

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1576 Bile		GC	1	Not applicable	161.0 mg/l	Death due to maprotiline. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, R. 1979
1577 Blood		GC	1	a) Not applicable b) Not applicable	a) 6.2 mg/l b) 2.0 mg/l	a) Axillary blood b) Cardiac blood Death due to maprotiline. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, R. 1979
1578 Kidney		GC	1	Not applicable	34.0 mg/g	Death due to maprotiline. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, R. 1979
1579 Liver		GC	1	Not applicable	92.0 mg/g	Death due to maprotiline. 44 fatal poisonings from the Greater London area, Essex, and Kent, ages 2-80 yr. DRUGS; ANTIDEPRESSIVE AGENTS; DIAZEPAMS; ALCOHOLS; BLOOD; URINE; LIVER; LUNGS; KIDNEYS; BILE; SPLEEN; AUTOPSIES; UNITED KINGDOM; CASE HISTORIES; FORENSIC MEDICINE	Robinson, A.E. McDowall, R.D. Sattar, M. Holder, A.T. Powell, R. 1979

9,10-Secocholesta-5,7,10(19)-triene-3beta,25-diol (8 CI)
9,10-Secocholesta-5,7,10(19)-triene-3,25-diol, (3beta,5Z,7E)- (9 CI)
19356-17-3
C27-H44-O2
MW 400.65

TISSUE	EXPOSURE ROUTE	ANALYTICAL METHOD	NUMBER OF CASES	RANGE	MEAN	GENERAL INFORMATION	REFERENCE
1580 Blood, serum		CC Radiometry	a) 40 b) 35 c) 89	a) Not given b) Not given c) Not given	a) 32 ng/ml b) 30 ng/ml c) 18 ng/ml	a) Controls, blood Pb 29 ug/dl or less b) Blood Pb 30-59 ug/dl c) Blood Pb 60 ug/dl or higher Samples from Black or Puerto Rican children in the Bronx. Ages ranged from 1 to 6 years. All were seen at Montefiore Hospital and Medical Center between 1971 and 1975. No metabolic bone disease observed. LEAD; METALS; CALCIUM; MINERAL METABOLISM; HYDROXYCHOLECALCIFEROLS; VITAMIN D; NUTRITIONAL DEFICIENCIES; CHILDREN; BLOOD; NEW YORK; BLOOD SERUM	Sorrell, M. Rosen, J.F. Roginsky, M. 1977